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University of Kentucky, jthomas@csusm.edu

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ABSTRACT OF DISSERTATION

Jacky T. Thomas

The Graduate School
University of Kentucky

2011

INTRAPSYCHIC PREDICTORS OF PROFESSIONAL QUALITY OF LIFE:
MINDFULNESS, EMPATHY, AND EMOTIONAL SEPARATION

ABSTRACT OF DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Social Work
at the University of Kentucky

By
Jacky T. Thomas, MSW, LCSW
Lexington, Kentucky

Director: Dr. Melanie D. Otis, Associate Professor of Social Work
Lexington, Kentucky
2011

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ABSTRACT OF DISSERTATION

INTRAPSYCHIC PREDICTORS OF PROFESSIONAL QUALITY OF LIFE: MINDFULNESS, EMPATHY, AND EMOTIONAL SEPARATION

A growing literature documents the inherently stressful nature of working with persons who are suffering or traumatized, and the potential for the development of stress disorders among social workers and other helpers. Previous studies of compassion fatigue and burnout have provided important information about professional and workplace variables that might influence risk, but little attention has been given to studying *intrapersonal* skills/abilities that might reduce risk and/or increase resilience and work satisfaction among helping professionals. This exploratory study asked whether levels of mindfulness, empathy, and emotional separation would influence professional quality of life, including compassion fatigue, burnout, and compassion satisfaction. Surveys consisting of demographic questions and four established scales measuring professional quality of life, mindfulness, empathy, and emotional separation were mailed to a random sample of 400 licensed clinical social workers in Kentucky. Data were collected between Mar. 8, 2008, and May 29, 2008, and included 171 usable surveys, a 42% response rate. Data were analyzed using ordinary least squares multiple regression, analysis of variance tests, and Sobel tests of mediation. Findings show significant, direct associations of higher mindfulness and emotional separation scores with higher compassion satisfaction scores and lower burnout scores. Higher emotional separation was also directly and significantly associated with lower compassion fatigue, and mediation tests suggested an indirect negative relationship between mindfulness and compassion fatigue as well. The personal distress empathy subscale had a significant, direct, negative association with compassion satisfaction, while empathic concern had a significant, direct, positive association. In addition, tests for mediation suggested significant indirect effects of personal distress on all three dependent variables. Results suggest that an increased emphasis on the intentional management of internal emotional states may be as important for clinicians as it is for clients, and that professional training programs should consider how best to teach such skills.

INTRAPSYCHIC PREDICTORS OF PROFESSIONAL QUALITY OF LIFE:
MINDFULNESS, EMPATHY, AND EMOTIONAL SEPARATION

KEYWORDS: Mindfulness, empathy, burnout, compassion fatigue,
compassion satisfaction

Jacky T. Thomas
Student Signature

January 30, 2011
Date

INTRAPSYCHIC PREDICTORS OF PROFESSIONAL QUALITY OF LIFE:
MINDFULNESS, EMPATHY, AND EMOTIONAL SEPARATION

By

Jacky T. Thomas

Melanie D. Otis, Ph.D.

Director of Dissertation

David Royse, Ph.D.

Director of Doctoral Studies

January 30, 2011

Date

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DISSERTATION

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University of Kentucky
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DEDICATION

This dissertation is dedicated to my family, especially my remarkable husband, Jimmy Stevens, our wonderful children, Arwen, Nathaniel, and Ira, and my eight dear sisters. Your solid good sense and good humor helped me balance the demands of family, job, coursework, and dissertation. You never let me forget what was really important, and I am very, very grateful to you all.

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Chapter One

All men have a mind which cannot bear to see the suffering of others.

Mencius (370-286 BCE)

Introduction

Social workers and other human service providers are charged with being present and empathic with persons in complex situations that often involve intense pain, trauma, and suffering. A growing literature documents the inherently stressful nature of this work, the costs to individual workers, and the resulting influence on stability and effectiveness of the professional workforce. Over the last two decades, considerable attention has been given to concepts such as *vicarious trauma* (VT), *compassion fatigue* (CF), *secondary traumatic stress* (STS), and the somewhat older concept of *burnout* among helping professionals. Several authors have suggested that there is a direct relationship between work-related stress and retention in the profession, and have expressed concerns about the social, psychological, and economic costs of worker turnover (Bride, 2007; DePanfilis, 2006; Figley, 1995b; Yankeeelov, Barbee, Sullivan, & Antle 2009). Others express concern that the strain of doing such work has the potential to impact the quality of decision-making and the capacity for developing or maintaining optimal client-worker relationships (Conrad & Kellar-Guenther, 2006; Huggard, 2003; Killian, 2008; Radey & Figley, 2007; Valent, 2002.)

Bride (2007) claims STS is “coming to be viewed as an occupational hazard” (p. 64), and Cunningham (2004) suggests professional training programs have an ethical obligation to better prepare students for what they will face in practice. In addition, Radey and Figley (2007) contend that it is important not just to address compassion

fatigue and burnout, but also to examine factors which contribute to increased *compassion satisfaction* among those who do such work.

Rationale for the Study

In this chapter, I will examine a number of concepts which are relevant to this study. First, I will discuss aspects of professional quality of life, including compassion fatigue, burnout, and compassion satisfaction. I will then consider empathy, which is described as a necessary component of effective treatment, *and* a path of vulnerability to secondary stress disorders. The idea of *emotional separation*, or the capacity to keep oneself differentiated from the client, will be discussed next, as it may serve as a buffer to protect the clinician from the potential negative effects of empathic engagement. Finally, I will examine the construct of mindfulness and propose a model to test relationships between mindfulness, empathy, emotional separation, and several aspects of professional quality of life, including compassion fatigue, burnout, and compassion satisfaction.

Compassion Fatigue, Burnout, and Compassion Satisfaction

“Compassion fatigue” is the more recent term used to describe secondary stress reactions among those who are empathically engaged with others who are traumatized or suffering. It is very closely related to the idea of vicarious trauma (Figley, 2002b; Stamm, 2009) and has been suggested as a substitute term for “secondary traumatic stress disorder” because it is thought to be less stigmatizing to the professional (Figley, 2002b). Burnout, on the other hand, is generally related more to organizational or institutional factors and is “associated with feelings of hopelessness and difficulties in dealing with work or managing your job effectively” (Stamm, 2005, p.5). Burnout may be related to other secondary stress disorders (McCann & Pearlman, 1990). Compassion satisfaction, though mentioned much less in the literature, relates to the positive feelings derived from

doing work effectively (Stamm, 2005). (These terms will be explained more fully in Chapter 2).

“Common Factors” and Empathy

Despite decades of debate about the relative benefits of particular treatment approaches, recent studies examining psychotherapy effectiveness have shown relatively small differences in treatment outcome related to particular interventions and techniques, and higher effects from a constellation of factors common to most interventions (Hubble, Duncan, & Miller, 1999; Driscoll, 2004). Among these “Common Factors” the *therapeutic relationship* or *therapeutic alliance* predicts about 30% of variance in outcome in psychotherapy, compared to 15% from particular models and techniques, according to Lambert & Barley (2001). While controversy exists regarding the relative weight of specific versus common factors to outcome, substantial evidence supports the importance of relational and alliance factors, regardless of treatment modality (Bickman, 2005). According to Clark (2009), attention to the therapeutic alliance and to variables relating to particular client/ clinician characteristics “...may represent the future for research in psychotherapy and substance user treatment....” (p. 42).

The therapeutic alliance refers to the relationship between client and therapist, including affective bonds (trust, respect etc.) and collaborative agreement about the goals or tasks of therapy (Bordin, 1979; Horvath & Bedi, 2002). Descriptions vary somewhat regarding the clinician characteristics which predict a strong alliance, but most include some combination of high levels of acceptance, warmth, and empathy, along with low levels of reactivity, criticism, or blaming responses (Hubble, Duncan, & Miller, 1999; Driscoll, 2004; Cozolino, 2006). Empathy, in a 2001 meta-analysis by Greenberg, Elliot, Watson and Bohart, accounted for almost 10% of psychotherapy outcome.

Empathy as a path of vulnerability?

While empathy, defined in this study as cognitive and affective reactions of one individual to the experiences of another (Davis, 1983), is commonly assumed to be a critical factor in effective helping, it has also been considered a primary path of vulnerability for the development of secondary stress disorders (Decety & Lamm, 2006; Figley, 2002a; Rothschild, 2006). Theorists writing about empathy, from various eras and multiple theoretical paradigms, have argued for empathy as a necessary component of treatment, but one that must be balanced with sufficient self-differentiation and self-awareness.

Common practice wisdom has cautioned about the careful use of empathy. Over-identification with the client might compromise professional treatment and put the therapist at risk for stress-related problems such as compassion fatigue or burnout. However, most advice regarding management of this risk has been relatively simplistic and prescriptive, with admonitions “not to take it home with you” and to “practice good self-care.” There has been relatively little explication of *how* social workers manage to accomplish this intentional and judicious use of empathy, or whether there are skills/abilities which may be strengthened by training and/or practice that allow for effective connection with the client without compromising necessary differentiation.

Emerging neuroscience research indicates that there are inherent mechanisms by which humans “mirror”, or experience “embodied simulation” of the body states (and consequently, emotional states) of those they observe (Gallese, 2004; Rizzolatti, 2005). This knowledge further supports the need to examine the mechanisms by which empathic responses are managed in order to avoid taking on the trauma of clients.

What might protect?

Most of the studies examining work-stress related disorders (vicarious trauma, secondary traumatic stress, compassion fatigue, and burnout) have examined demographic variables and organizational or institutional factors (such as caseload, training, and supervision etc.). Relatively little attention has been paid to intrapsychic variables which may influence the social worker's capacity to sustain an engaged therapeutic presence without falling victim to the negative effects of "witnessing the suffering of others." There have been a few studies which have looked at the relationship between empathy and vulnerability to secondary stress disorders, and at the notion of "emotional separation," the capacity to remain differentiated from the client (Badger, Royse, & Craig, 2008; Corcoran 1982, 1983).

Although epidemiological studies show high rates of professional distress, most helping professionals, even those who work in very high-stress settings, do *not* experience problematic levels of distress. It is likely that there are multiple factors influencing this differential response to stress, but an examination of the literature regarding resilience indicates that professional training programs should carefully consider their practices regarding clinical training in order to encourage positive coping. Is it possible to develop habits or capacities in students and workers that may have a protective effect on their experience of work-related strain? Are there ways to increase the odds that particular workers/students can remain empathically engaged with clients, but with increased resilience to the potential negative effects of witnessing their clients' pain, and with reduced vulnerability to the patterns of emotional numbing and experiential avoidance that accompany secondary trauma responses? And, is it possible to increase the likelihood that practitioners experience the kinds of work satisfaction

which predicts longevity in the profession (Yankeelov et al., 2009) and the concomitant accumulation of practice wisdom and experience that no technology can replace?

Mindfulness

Mindfulness is an ancient concept that has recently received considerable attention in the behavioral medicine and psychotherapy literature. Mindfulness has been defined as “focusing one’s attention in a nonjudgmental or accepting way on the experience occurring in the present moment” (Baer, Smith, & Allen, 2004, p.191) and as “non-elaborative awareness of present-moment experience” (Chambers, Gullone, & Allen, 2009, p. 561). It involves intentional, non-judgmental, present-focused attention (Kabat-Zinn, 1994). While the term “mindfulness” is used in the literature to refer to both a trait and to a state, as well as to practices such as meditation used to achieve the state of mindfulness, (Chambers et al., 2009), the present cross-sectional study will be examining dispositional, or trait mindfulness.

There is some agreement that mindfulness is a multi-factorial construct (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Chambers et al., 2009) involving the capacity to pay attention to what is happening in the moment, without creating elaborate mental stories about the experience and without reacting to negative thoughts or affective states, but instead accepting the experiences without judgment or avoidance (Baer et al., 2006; Carmody, 2009; Dimidjian & Linehan, 2003). Mindfulness is associated with improvements in metacognitive awareness and processing (Chiesa & Serretti, 2009; Garland, Gaylord, & Park, 2009; Segal, Williams, & Teasdale, 2002) in which thoughts and feelings are perceived not as factual representations of reality to be reacted to, but as transient mental events that can be appraised from a decentered, distanced perspective,

allowing for more reflective, intentional action and less impulsive or automatic reactivity (Chiesa & Serretti, 2009; Garland et al., 2009; Segal et al., 2002).

Mindfulness offers promise in terms of intervention with various troubled client populations (see reviews in Baer, 2003; Brown, Ryan & Creswell, 2007; Chambers et al., 2009; Chiesa & Serretti, 2009). A number of empirically validated treatment approaches, including Dialectical Behavior Therapy, DBT, (Linehan, 1993), Mindfulness-Based Stress Reduction, MBSR, (Kabat-Zinn, 1990), Mindfulness-Based Cognitive Therapy, MBCT, (Segal, Williams, & Teasdale, 2002), and Acceptance and Commitment Therapy, ACT, (Hayes, Strosahl, & Wilson, 1999) use mindfulness training as a treatment component. In these approaches, emphasis is placed on the clinician as a practitioner of mindfulness, acknowledging the importance of the relationship between clinician mind-state and clinical effectiveness (Baer, 2007; Cozolino, 2006; Kabat-Zinn, 1990; Linehan, 1993; Segal, 2002; Siegel, 2007a). MBSR and MBCT protocols *require* that the clinicians are themselves engaged in a committed and on-going mindfulness practice (Baer, 2007), as clinicians' ability to manage their own reactivity in response to client material is considered essential to treatment success (Segal et al., 2002).

It has also been suggested that mindfulness may contribute to reflective capacities and a reduction in cognitive errors among clinicians (Epstein, Siegel, & Silberman, 2008; Ludwig & Kabat-Zinn, 2008) and to improved outcomes for clients (Grepmaier, Mitterlehner, Loew, Bachler, Rother & Nickel, 2007; Grepmaier, Mitterlehner, Loew, & Nickel, 2007).

Recent conceptual discussions of the construct of mindfulness (and proposed rationales for its salutary effects) focus largely on mechanisms of action related to changes in metacognitive processing, and consequent effects on capacity for emotional

regulation (Baer, 2007; Chambers, Gullone & Allen, 2009; Carmody, 2009; Teasdale et al, 2002). A number of researchers are also examining the neurological correlates of mindfulness, suggesting that cognitive changes may be associated with changes in neural structure (Creswell, Baldwin, Eisenberger, & Lieberman, 2007; Luders, Toga, Lepore & Gaser, 2009; Vertergaard-Poulsen et al., 2009).

Conceptually, this growing body of research linking mindfulness with enhanced well-being and improved capacity for emotional regulation suggests that the relationship between mindfulness and professional quality of life is worth exploring. The qualities associated with mindfulness may be relevant to social workers and other human service providers who are attempting to maintain differentiated, attuned, empathic, and non-judgmental helping relationships under quite stressful circumstances.

Purpose of the Study

The purpose of this study is to explore the relationships between empathy, emotional separation, mindfulness, and professional quality of life (including compassion fatigue, burnout, and compassion satisfaction) among a random sample of licensed clinical social workers. This work builds on a large body of conceptual literature regarding trauma, empathy, and mindfulness. There are a few studies suggesting that mindfulness practice may be related to clinician well-being. Three studies, one with practicing physicians (Krasner, et al., 2009), one with healthcare workers (Galantino, Vaime, Maguire, Szapary, & Farrar, 2005), and one with nurses and nursing aides (Mackenzie, Poulin, & Steidman-Carlson, 2006) have found decreases in aspects of burnout after mindfulness interventions. No studies have examined mindfulness in relation to compassion fatigue or compassion satisfaction, or with any of the three dependent variables in social work samples. In addition, further study is needed to

examine the effects of practitioner empathy and emotional separation on compassion fatigue, burnout, and compassion satisfaction. The present study is an attempt to fill this gap.

Theoretical Background for Study

The fundamental perspective from which the arguments in this study emerge is the traditional social work perspective of interdependence and mutuality of influence between the individual person and the material and social world in which the person resides. In reality, the boundaries between a particular individual and the environment are often indistinguishable (Linehan, 1993) and the variety and complexity of these mutually-influencing interactions are humbling. It seems a truism to say that the social worker influences, *and is influenced by*, each interaction with each client, for good or ill. While this is, to some extent, a background paradigm and will not be emphasized in this dissertation, I do want to overtly acknowledge this interactionist, constructivist view because it supports some of the later arguments regarding the transmission of trauma and the healing capacity of empathetic engagement.

The interactionist view emerges from the work of Mead, Dewey, Cooley, and Blumer, and emphasizes the self as processual rather than fixed (Robbins, Chatterjee, & Canda, 2006). Historically, social constructivists and interactionists have emphasized social influences on development and de-emphasized naturalistic/ biological ones (Forte, 2001). The recent explosion in knowledge regarding neuroscience and genetics, however, challenge any core separation between social interactionist points of view regarding development and those emerging from psychobiology. Forte (2001) argues that this burgeoning knowledge regarding neurobiological influences on human development and behavior is very compatible with Mead's notion of "emergence" (p

368) and the general notion of human adaptive capacities. (It is also very compatible with ideas of reality found in Eastern spiritual traditions, including the idea of causal interdependence, or “dependent origination” epitomized by the visual image of “Indra’s Net”¹.)

More specifically, the theoretical perspectives supporting the arguments in this study emerge largely from cognitive theory. Discussions of trauma, post-traumatic stress disorder, and secondary traumatic stress disorders require an understanding of some basic ideas of cognitive theory, including Piaget’s description of the way we acquire and modify our knowledge and beliefs about the world. Piaget proposed that we form “schemas”, or mental constructs that allow us to categorize and organize information. As experience occurs, new information is used to modify or add to previously existing schemas, or create new schemas, through the adaptive processes of accommodation and assimilation (Tuddenham, 1996).

Cognitive information processing theory simply refers to the perception, storage and retrieval of information in human memory systems. It assumes that all cognitive processes involve performing operations on internal representations of objects, memories, thoughts, etc. (e.g., Piaget’s schemas), and that the way we access, select, attend to, and modify particular information is influenced by experience. Persons suffering from traumatic stress are thought to have altered cognitive information processing

¹. The *Avatamsaka-sutra* (c. 300s CE), translated by Francis H. Cook, provides a metaphor for the view of interpersonal reality as interconnected and mutually influencing.

“Far away in the heavenly abode of the great god Indra, there is a wonderful net which has been hung by some cunning artificer in such a manner that it stretches out infinitely in all directions. In accordance with the extravagant tastes of deities, the artificer has hung a single glittering jewel in each “eye” of the net, and since the net itself is infinite in dimension, the jewels are infinite in number. There hang the jewels, glittering like stars in the first magnitude, a wonderful sight to behold. If we now arbitrarily select one of these jewels for inspection and look closely at it, we will discover that in its polished surface there are reflected *all* the other jewels in the net, infinite in number. Not only that, but each of the jewels reflected in this one jewel is also reflecting all the other jewels, so that there is an infinite reflecting process occurring”

(van der Kolk & McFarlane, 2007) in which attentional biases influence salience and attentional focus, and memories of traumatic events are stored and retrieved in atypical ways (Shipherd & Salters-Pedneault, 2008).

Cognitive theory will also be used to explain what Teasdale et al. (2002) termed “metacognitive processes,” abilities which allow us to step back and think about our thoughts. These include processes of attentional and emotional regulation and cognitive appraisal/ reappraisal. Wells (2000) presented a metacognitive model of post traumatic stress syndrome, in which he proposed that coping strategies such as ruminative thinking, biased attention toward threat, and avoidance/ suppression lead to problems in executive processing and flexible, adaptive self-control (Wells & Sembi, 2004). Information regarding these metacognitive processes will be important in the discussion of trauma reactions (including experiential avoidance and rumination) and mindfulness, especially regarding proposed mechanisms of action.

McCann and Pearlman’s Constructivist Self-Development Theory (1990) will be used to discuss a model for understanding the *interaction* of traumatic events and the traumatized individual which occurs in vicarious trauma/ STS/ compassion fatigue. This theory also emerges from cognitive theory and, again, describes the way meaning is organized into schemas or mental frameworks (assumptions, beliefs, expectations about the self and the world that allow us to make sense of our life) around core psychological needs. This theory describes the profound effects which occur when traumatic experiences challenge or disrupt the particular pre-existing cognitive schemas of the therapist and emphasizes that secondary trauma will be experienced differently by different professionals depending on the salience of particular cognitive schemas and the consequent meaning assigned to the experience (McCann & Pearlman, 1990). Thus, it

emphasizes that though responses to trauma are affected by developmental history, they are also susceptible to intentional modification and “reconstruction” (Saakvitne, Tennen, & Affleck, 1998, p. 283).

“Theory of mind” (ToM) refers to the capacity to reflect on one’s own and other’s mental states, and to recognize that others have perceptions and thoughts different from our own (Baron-Cohen, 2001). ToM is a developmentally acquired cognitive ability, thought to occur in most healthy people by the age of 4 and be fully developed by age 10 or so (Cozolino, 2006; Seigel, 1999). In terms of this study, ToM is likely related to empathy (in terms of its relevance to the capacity to accurately perceive another’s mental state), and to secondary stress disorders (in terms of the capacity be affected by the perceptions of others’ distress).

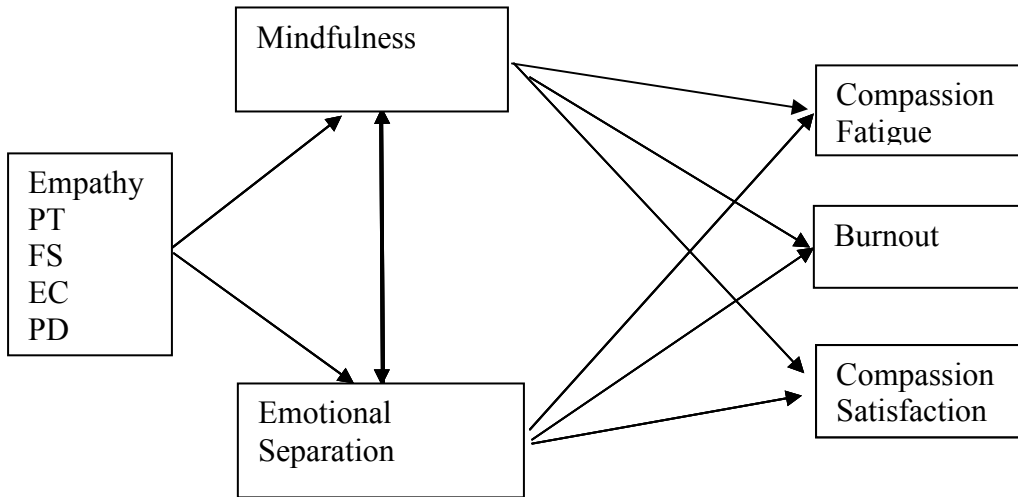
Finally, information emerging from cognitive neuroscience, social neurobiology and social genomics is relevant to this discussion. This material is background to most of the conceptual arguments that will be made. It is relevant to the discussion of trauma, to the mechanisms by which trauma may be transferred from one person to another, and to factors which may influence empathetic engagement and the capacity for emotional and cognitive “separation”. It relates as well to the discussion of mindfulness, as capacities for emotional regulation and metacognitive processing which are thought to be mechanisms of action in mindfulness interventions emerge within a context of reciprocal neurological, biological, social, and cognitive development and experience. This material provides background to an understanding of empathy, secondary stress reactions, and to the ways in which mindfulness may influence how an individual may metabolize stressful experiences.

Conceptually, it will be argued that *experience* may alter the very construction of our brains and the ways our particular genetic profile will be expressed, as well as our internal interpretation of events and our consequent emotional and behavioral responses. This is not limited to events which occur in childhood, but extend to adult experiences as well, and may include negative experiences such as stress and trauma, and positive experiences such as empathic relational encounters and practices such as mindfulness. The idea that we can be agents in this on-going construction and, to some extent, can purposely influence and regulate our responses to stressful life experiences is implicit in these arguments.

Many social workers and other helping professionals will be secondarily exposed to trauma, often multiple times and in varied doses. The proposed empirical study will examine mindfulness, empathy, and emotional separation in relation to compassion fatigue, burnout, and compassion satisfaction in a random sample of clinical social workers in Kentucky.

Figure 1

Conceptual Model Predicting Compassion Fatigue, Burnout, and Compassion Satisfaction



The conceptual model for the study suggested that the dependent variables of compassion fatigue, burnout, and compassion satisfaction would each be significantly predicted by a combination of independent variables including mindfulness, empathy, and emotional separation. In addition, given prior research which did not find empathy to be a significant predictor of secondary trauma or burnout, this model suggests that the effect of empathy on the dependent variables might be indirect.

Chapter Two

Review of selected literature

In this section, I will discuss psychological trauma and post traumatic stress disorder from historical and descriptive perspectives, including secondary trauma which may affect social workers and other helping professionals. With the recognition that people respond differentially to the experience of trauma, I will explore the idea of resilience in relation to trauma effects. I will briefly discuss the idea of *kindling* or biological memory (see p. 31 for explanation) in relation to prior traumatic experiences, and examine some of the harmful cognitive coping mechanisms (such as experiential avoidance and rumination) which often accompany post-traumatic responses (including secondary traumatic responses). I will explain the idea of “metacognitive awareness,” which may contribute to reduced avoidance and rumination.

I will then progress to a discussion of burnout, compassion fatigue, and compassion satisfaction, and to associated risk and protective factors. With the recognition that social workers and other helping professionals are regularly exposed to the trauma of others, how they metabolize this trauma has important implications for individual clinicians, for the professional workforce, and for clients.

I will discuss the reciprocal, interpersonal nature of neurophysiologic development, recent findings regarding neural plasticity even in adulthood, and the way that trauma may affect these neural processes. Historical views of empathy as a complex process which involves both affective and cognitive processes will be introduced, as well as more recent descriptions of empathy as a neurosocial, developmental capacity. I will discuss the importance of clinicians’ capacity to keep themselves emotionally differentiated from their clients’ experiences—and explore this capacity as an *intentional*

process requiring attentional and emotional regulation. Empathy and emotional separation will be related, as well, to the constructs of compassion fatigue and burnout.

Finally, I will discuss mindfulness, and examine conceptual and empirical literature which suggests that mindfulness may affect practitioners both cognitively and neurologically, and in ways that, theoretically, may influence the clinician's experience when working with traumatized clients. This review will provide the rationale for the empirical study described in Chapter 3 of this dissertation.

Psychological Trauma and Post Traumatic Stress Disorder

Van der Kolk, Weisaeth, and van der Hart (2007) state that “psychiatry as a profession has had a very troubled relationship with the idea that reality can profoundly and permanently alter people's psychology and biology” (2007, p.47). Psychiatry has debated questions regarding whether trauma effects were organic or psychological, whether traumatic events actually caused negative effects or simply triggered preexisting vulnerabilities, and even whether the effects were “real” or simply malingering (pp. 47-48).

Psychiatrists as early as Charcot (1825-1893) and Janet (1859-1947) gave credence to the phenomenon of trauma as causal to mental disorders (van der Kolk, Weisaeth, et al., 2007). Freud also believed, initially, that psychopathology resulted largely from childhood trauma, but later shifted his interpretation regarding causal factors from external traumatizing events to internal factors (e.g. childhood fantasies and misinterpretations of childhood events etc.). The psychoanalytic community largely followed Freud in this shift, and as a result, relatively little exploration of the psychological and biological effects of traumatic life events was done in the first three-quarters of the 20th century (van der Kolk, Weisaeth, et al., 2007).

A few researchers working with war veterans and survivors of the Holocaust continued to examine the link between traumatic experience and subsequent psychopathology (van der Kolk, Weisaeth, et al., 2007). One of these was Abram Kardiner, who in 1941 wrote about post-trauma syndromes among returning soldiers and emphasized the physical as well as the psychological symptoms in traumatized persons. These symptoms included hypervigilance and startle response, aggressive irritability, fixation on the trauma, and constricted personality functioning. He also spoke of traumatized patients experiencing “an altered conception of the self in relation to the world” (van der Kolk, Weisaeth, et al., 2007, p. 56) in which the patient behaved as though the original trauma was still occurring, and engaged in defensive behaviors to protect himself from the experience.

In the 1960’s and 1970’s, growing awareness of the existence and impact of child abuse, intimate partner violence, and rape, as well as the burgeoning evidence that returning Vietnam veterans were struggling with delayed stress reactions revived broad interest in the concept of psychological trauma (van der Kolk, 1987).

In 1976, Horowitz described the phenomenology of trauma reactions, (using concepts from psychodynamic and information processing theories) as an alternation between intrusive (reliving) and numbing (avoiding) symptoms, and this description has continued to be used by others in the field (van der Kolk, 1987; Yule, Williams & Joseph, 1999). It was theorized that traumatized persons moved between the experiences of intrusive, disturbing recollections and strategies to avoid, deny, or become numb to those recollections and the associated feelings (Horowitz, 1990; van der Kolk, 1987, 2007; de Silva & Marks, 1999). Intrusive response symptoms included aggressive reactivity, exaggerated startle responses, intrusive recollections, fixation on the traumatic event, and

reenactment of trauma-related situations while numbing responses consisted of avoidant strategies, including emotional constriction, and at times social isolation (van der Kolk, 1987; Yule, Williams & Joseph, 1999).

The American Psychological Association recognized PTSD as a diagnostic category in 1980, and refined the diagnostic criteria for the DSM-III-R (1987) and the DSM-IV (1994). Currently, diagnostic criteria in the DSM-IV-TR include three symptom clusters: intrusive re-experiencing, persistent avoidance, and increased arousal (APA, 2000).

Current understandings. PTSD develops over an extended time and not as an immediate reaction to a trauma, no matter how horrific (van der Kolk & McFarlane, 2007). According to McFarlane and Yehuda (2007) acute stress reactions are normal responses to traumatic events, and most traumatized people will experience a resolution of symptoms and will not go on to experience PTSD. Even among those who do, most will eventually “heal”; chronic PTSD represents “the failure of healing and modulation of the acute traumatic response” (McFarlane & Yehuda, 2007). It is the “ability to tolerate suffering” (p. 157) that determines long-term adaptation to traumatic events. These authors emphasize the complexity of influences, and the danger of simplistic, categorical approaches to diagnoses and treatment.

The individual’s response at each step of this process [the longitudinal course of PTSD] will be influenced by a complex matrix of biological, social, temperamental, and experiential issues. For example, the neurobiology of an individual’s stress response, the capacity for self-modulation, the ability to tolerate the fear and threat that trauma involves, and the ability to cope with any losses will be some of the

factors influencing the individual's ultimate outcome (McFarlane & Yehuda, 2007, p.157)

Van der Kolk elaborates the concept further and states "PTSD is a condition that severely disrupts individual's capacity to perceive, represent, integrate, and act on internal and external stimuli because of major disruptions in the neural systems associated with attention, working memory, and the processing of affective stimuli" (Van der Kolk, McFarlane, & Weisaeth, 2007, preface, p. x).

Cognitive information processing. Remarkably, Pierre Janet described, a full century ago, a process whereby persons suffering from traumatic experiences are unable to integrate such extreme experiences into their normal cognitive schemas, and consequently become stuck as their psychological energy is consumed attempting to keep the traumatic memories out of conscious awareness, leaving them "unable to attend to their internal processes as guides for adaptive action" (van der Kolk et al., 2007, p. 52-53).

PTSD has been described as a disorder involving altered or impaired information processing, with intrusive memories leading to (generally unsuccessful) avoidance efforts, including dissociation. People are "meaning-making creatures" (van der Kolk, van der Hart, & Marmar, 2007, p.304) and organize their worlds according to both conscious and implicit integration of life experiences. They form cognitive schemas which allow them to make sense of experience, and help filter experiences for salience and for attentional and emotional organization. These preexisting mental schemas make for highly individualized perceptions of what is traumatic (van der Kolk, van der Hart, & Marmar, 2007).

“Cognitive processing models of post-trauma reactions propose that persons enter situations with preexisting mental schemas. These schemas contain information about the person’s past experiences as well as their beliefs, assumptions, and expectancies in regard to future events” (Hollon & Kriss, 1984, as cited in Creamer, Burgess, & Phillipa 1992, p. 453). These cognitive schemas may be conscious or unconscious, but they assist people in selecting particular information for further processing and making meaning of emotionally salient experiences.

Buckley, Blanchard and Neill (2000) reviewed empirical literature on information processing and PTSD. They suggest that PTSD patients show impaired memory for trauma material *and* for trauma-neutral information, and that this memory impairment may occur as a result of hippocampal damage secondary to excessive neuroendocrine responses. These automatic information processing biases may result in the hyperarousal symptoms of PTSD such as hypervigilance and exaggerated startle responses, as well as the involuntary re-experiencing of symptoms as trauma networks are activated (Buckley et al, 2000). Persons can become increasingly sensitized to stimuli which remind them of traumatic experiences (van der Kolk & McFarlane, 2007), and can develop perceptual biases which increase attention to trauma-relevant stimuli, and reduce attention to non-trauma related experiences including those that are neutral or pleasant.

Van der Kolk and McFarlane (2007) describe the following critically relevant patterns related to maladaptive information processing which occur among those with PTSD:

- They experience persistent intrusive memories related to the trauma, which interfere with attending to other incoming information;

- they sometimes compulsively expose themselves to situations reminiscent of the trauma;
- they actively attempt to avoid specific triggers of trauma-related emotions, and experience a generalized numbing of responsiveness;
- they lose the ability to modulate their physiological responses to stress in general, which leads to a decreased capacity to utilize bodily signals as guides for action;
- they suffer from generalized problems with attention, distractibility, and stimulus discrimination; and
- they have alterations in their psychological defense mechanisms and in personal identity. This changes what new information is selected as relevant. (p.9).

In brief, then, when persons are sufficiently traumatized, they may be assailed with disturbing, intrusive memories, flashbacks, and nightmares which may occur in fragmented, sensory ways without a coherent story to assist them in making sense of the events. Some traumatized persons reenact the trauma, consciously or unconsciously, which may result in harm to others, self-destructiveness, or revictimization (van der Kolk & McFarlane, 2007). They often begin organizing their lives around avoidance of triggering thoughts, images, or experiences, and may “experience a progressive decline and withdrawal in which ...to feel nothing seems to be better than feeling irritable and upset” (p. 12). This may eventually lead not only to higher arousal, but to neurohormonal, immunological, and neuroanatomical effects, including decreased hippocampal volume and marked right-hemisphere lateralization (van der Kolk, 2007). Despite self-imposed emotional constriction, however, their bodies continue to react with

hypervigilance, exaggerated startle response, restlessness—“conditioned autonomic arousal” (van der Kolk & McFarlane, 2007, p. 13) to trauma-related stimuli and to perceive a “generalization of threat” (p.13). The world seems less and less safe. It becomes difficult for traumatized persons to accurately decipher messages from the autonomic nervous system and to articulate how they are feeling, consider a range of options for solving problems, and sort out relevant from irrelevant stimuli. In general, persons experiencing post traumatic stress reactions “lose the capacity to respond flexibly to their environment” (p 14) and “tend to move immediately from stimulus to response without often realizing what makes them so upset” (p 13). Even minor stimuli may result in intense fear, anxiety, anger or panic, resulting in both overreacting and underreacting responses, deficits in self-soothing, and problems with sleep (van der Kolk & McFarlane, 2007).

Resilience. Yehuda and Flory (2007) address the issue of resilience as they trace the history of professional perception of trauma responses. They suggest that early (pre-DSM III) views of human responses to trauma saw people as inherently resilient, and they believed that trauma symptoms resolved themselves if the external stressors were no longer present. Persistent symptoms reflected underlying psychopathology that had simply been precipitated by the trauma. This attitude was felt to be pathologizing and stigmatizing by those who had experienced trauma, as it implied a pre-existing vulnerability or deficit, and did not give sufficient weight to the traumatic event, nor adequate incentive for societal intervention in precipitating social problems (sexual violence, child abuse etc.)

The 1980 inclusion of the PTSD diagnosis in the DSM III helped in de-stigmatizing the issue of trauma reactions, but in doing so, strongly emphasized the

external traumatizing event, (i.e. nature and severity of the event), and, according to Yehuda and Flory (2007) did not sufficiently examine issues of individual differences in response to traumatic events.

Yet, individuals obviously *do* respond differently to the same traumatic events. Epidemiological studies clearly show that only a small percentage of those exposed to traumatic events (even catastrophic events) develop PTSD; most experience acute trauma responses that do not become chronic (Yehuda & Flory, 2007; van der Kolk, 1997; Reese, Najmi, & McNalley, 2010). While 50-60 % of people experience significant trauma in their lifetimes, the lifetime incidence of PTSD is only 9-15% (Sadock & Sadock, 2007). The current resurgence of interest in resilience in relation to trauma “may reflect a backlash towards explanations about stress effects that underemphasize individual differences, i.e., that trauma exposure invariably results in a bad outcome” (Yehuda & Flory, 2007, pp. 435-436).

What makes one person able to endure significant trauma and survive, relatively intact, while another can experience the same event and suffer chronic, debilitating effects? *Resilience* has been defined as “a dynamic process encompassing positive adaptation within the context of significant adversity” (Luthar, Cicchetti, & Becker, 2000, p.543). Greene (2008, pp 319-320) reviewed additional definitions of resilience, including: “markedly successful adaptation following an adverse event” (Rutter, 1987); “the ability to maintain the continuity of one’s personal narrative and a coherent sense of self following traumatic events” (Borden, 1992); and “a developmental process linked to demonstrated competence, the learned capacity to interact positively with the environment and to complete tasks successfully” (Masten, 1994).

Greene reminds us of the ecological context of resilience, shaped by biopsychosocial and spiritual factors across all system levels. Protective factors, conditions or events which enhance the adaptive capacities of individuals and consequently reduce risk, should also be considered (Greene, 2008; Price & Ingram, 2010). These may be environmental factors (such as strong social networks), or personal qualities or skills, (such as high intelligence, larger hippocampal volume, or good emotional regulation skills) (Greene, 2008; Price & Ingram, 2010; Reese, Najmi & McNally, 2010).

Richardson (2002) presented a model of resilience in which stressors/ traumas challenge the bio-psycho-spiritual homeostasis, resulting in disruptions (depending on the interaction between stressors and existing protective factors). The individual's world view is then changed, requiring a reintegration of the new experiences. The result may be may be *resilient reintegration* (posttraumatic growth), implying growth from the original homeostatic state; *reintegration back to the original state*, in which people just get through the crisis and back to their homeostatic state (but without growth); *reintegration with loss*, meaning that some motivation, hope or drive is lost as a result of the stressor; or *dysfunctional reintegration*, when people resort to various destructive behaviors to deal with the experience.

Citing research on the effects of child maltreatment in terms of probabilistic *but not certain* enduring vulnerabilities related to mastery of developmental tasks such as emotional regulation, Cicchetti and Blender (2006) argue for an “all-encompassing systems approach to understanding resilience” (p. 251). They suggest that, in addition to contextual psychosocial and environmental factors, future research on resilience should examine genetic and neurophysiological factors, recognizing the implications of neural

plasticity research showing that experience can impact the microstructure and biochemistry of the brain, for good or ill.

Ingram and Price (2010) suggest a diathesis-stress model as a way of understanding vulnerability and resilience. “Diathesis” implies a predilection to pathology that may include genetic, temperamental, biological, cognitive and interpersonal vulnerabilities, generally considered endogenous, which interact with stressful life experiences and to some extent help to explain the mechanisms of a disorder. They distinguish vulnerability from *risk*, which refers to variables such as poverty or social injustice that are “empirically associated with a greater likelihood of experiencing a disorder,” and are descriptive rather than causal (p.11).

Resilience and vulnerability represent the poles of a continuum, and persons at different places on this continuum will respond to stress/ trauma in very different ways (Ingram & Price, 2010). A highly resilient person may still develop psychopathology with sufficiently stressful experiences, but will likely be able to tolerate higher levels of stress without developing chronic problems than would a more vulnerable person. They theorize that vulnerability, though relatively stable, is not fixed or unchangeable, and life experiences can influence the trajectory of pathological responses (Ingram & Price, 2010).

Kindling. Anda et al.’s 2006 examination of the Adverse Childhood Experiences study found that childhood traumatic experiences (including abuse, witnessing domestic violence and other serious family dysfunction) predicted risk for a host of negative outcomes in affective, health, substance abuse, memory, sexual and aggression-related domains in later life. The authors argue that early trauma results in significant

neurodevelopmental injuries and deficits that influence the child's capacity for healthy adaptation to future life events.

While early childhood is a particularly critical period developmentally, there is evidence that the presence of prior traumatic experiences *even in adulthood* may increase vulnerability to future traumatic events. McFarlane and Yehuda (2007) suggest that PTSD causes "significant psychological and neurobiological changes, which endure even after the disorder remits" (p 169) and may permanently alter a person's vulnerability to future psychopathology. They discuss the model of kindling, where a "biological memory" (p 169) of previous illness results in a progressive sensitivity to future destabilization, including disordered affect and arousal, and abnormalities of cortisol responsiveness to stressful events. Vasquez and Hermangomex (2009) suggest that the ideas of sensitization and kindling involve a lowered threshold for the activation of cognitive constructs related to previous episodes of disordered affect, and can result in "escalating spiraling cycles of negative emotion" (p. 50). The authors suggest that distinctions between controlled and automatic processes are relevant to these ideas.

Cognitive coping strategies and metacognitive processing. While not specifically addressing trauma, Teasdale et al. (2002) conducted empirical studies showing that depressive relapse is associated with the activation of previously internalized patterns of depressive thinking. He showed that patients who had difficulty stepping back and adopting a distanced, decentered view of thoughts during negative experiences (and instead viewed the thoughts as accurate representations of reality) had increased risk of reactivating these prior memory networks and experiencing a recurrence of depression.

Wells' (2000) metacognitive model of PTSD proposes that traumatic states are perpetuated by maladaptive coping strategies which, though aimed at protecting the self, actually keep the traumatized person stuck in negative patterns of thinking and behavior. These strategies include vigilant attention to threat, worry and ruminative thinking, and attempts to suppress or avoid thoughts and reminders of the trauma. He suggests that these behaviors lead to problems in flexible and adaptive self regulation (Wells & Sembi, 2004).

Experiential avoidance. The concept of *experiential avoidance* is especially significant in examining vulnerabilities, risks and protective factors in relation to PTSD. Experiential avoidance is “a verbally mediated tendency to escape or avoid private psychological experiences (e.g. thoughts, emotions, sensations, memories, urges) by attempting to modify their form, frequency intensity, or situational sensitivity even when doing so is futile or interferes with valued actions” (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996, as cited in Boulanger, Hayes, & Pistorello, 2010, p 107). Emotional avoidance “taps into core processes that reduce the psychological flexibility of people” (Boulanger et al, 2010, p 115) and is associated with lowered functioning in both clinical and non-clinical populations and a broad range of psychological and behavioral problems, including depression, anxiety, substance abuse, and PTSD symptoms (Boulanger et al., 2010).

Given the patterns of intrusion and avoidance common to PTSD, it makes sense that patterns of experiential avoidance might *develop* as a part of the symptom profile. However, Boulanger and colleagues (2010) cite several longitudinal studies examining the *predictive* power of experiential avoidance for later development of psychopathology, including PTSD symptoms, deterioration of quality of life, number of medical visits, and

general mental health, even when controlling for other relevant variables. Like Wells and Sembi (2004), these authors argue that strategies of avoidance may prevent healthy resolution of traumatic experience and predict disordered responses such as PTSD.

Rumination. Rumination is a pattern of persistent negative thinking/worry in which persons repeatedly review and analyze negative events, self-perceptions, shortcomings, etc. (Baer, 2007). Despite the perception that this worry is necessary in order to understand and potentially prevent further negative events, ruminators are more vulnerable to a variety of psychological disorders (Baer, 2007) and to depressive relapse (Segal, Williams, & Teasdale, 2002).

Summary. It seems likely that there are levels of environmental stress under which even the most resilient person would be affected, but also that there may be conditions, traits or states that may increase the likelihood that clinicians experiencing environmental stress and traumatic events may become less vulnerable to patterns of maladaptive thinking / reacting, and increase their positive adaptation. Resilience is not fixed and static, but may be influenced by the meaning assigned to traumatic events, and the cognitive coping strategies employed. Constructivist Self Development Theory suggests that while clinicians' responses to trauma exposure will be influenced by their particular histories and by personally salient cognitive schemas; they can be active agents in deconstructing and reconstructing the meanings assigned and the coping strategies chosen.

This study will explore factors which may relate to building capacity for clinicians' intentional and pro-active management of stressful professional encounters.

Vicarious Trauma, Secondary Traumatic Stress, Compassion Fatigue, Burnout and Compassion Satisfaction

With the publication of the fourth edition of the *Diagnostic and Statistical Manual* (APA, 1994), it was officially recognized that people may experience trauma directly or indirectly. In addition to traumas that are experienced directly, traumatic events that are witnessed, or “events experienced by others that are learned about” (APA, p. 464)) are included as possible precipitants. Over the last two decades, growing recognition of the effects of this indirect, secondary exposure on helping professionals has resulted in the publication of several conceptual and empirical studies examining concepts such as *vicarious trauma* (VT), *secondary traumatic stress* (STS), *compassion fatigue* (CF), and *burnout*.

Vicarious trauma. McCann and Pearlman (1990) used the term vicarious traumatization to describe a process which broadens the Freudian construct of counter-transference (in which the therapist reacts to the client out of his or her own personal, unresolved experiences). They suggest that persons who work with traumatized clients are profoundly affected by their repeated empathic exposure to stories and images of traumatic experience, and may themselves experience symptoms of post-traumatic stress disorder as a result. These symptoms can include intrusive images or thoughts, and numbing or distancing reactions which can cause significant distress and compromise ability to maintain a responsive and empathic stance with clients (McCann & Pearlman, 1990). The repeated exposure to the traumatic material of others can result in the alteration of cognitive schemas, the beliefs and assumptions that allow individuals to interpret and make meaning of their experiences (McCann & Pearlman, 1990; Saakvitne, Tennen, & Affleck, 1998).

These altered cognitive schemas affect core areas of the self including: one's *frame of reference* regarding the world (and including spirituality); *self-capacities*, including the capacity to recognize, tolerate, and integrate affect; *ego resources*, including abilities to be self-observing; *central psychological needs*, reflected in disrupted cognitions in areas such as safety, trust, control, esteem and intimacy; and *perceptual and memory systems*, including neurochemical adaptations (Saakvitne, Tennen, & Affleck, 1998).

Compassion fatigue and secondary traumatic stress. Figley suggested that PTSD should be identified as *primary* posttraumatic stress disorder, and that STSD, or secondary traumatic stress disorder, be used to describe the trauma experience of those who treat the traumatized (Valent, 2002). Citing concerns that the secondary trauma label might be considered derogatory by some professionals, Figley later argued for using the more “user-friendly” (Figley 2002b, p.3) and less stigmatizing term of compassion fatigue to describe “the cost of caring”. Figley (2002b) suggests that the experience of compassion fatigue results in alterations in the cognitive schemas of the therapist, similar to the process McCann and Pearlman (1990) and Saakvitne et al. (1998) described with vicarious trauma.

Wilson (2004) suggests that vicarious trauma is different from secondary traumatic stress and compassion fatigue because of its emphasis on altered cognitive schemas. He describes secondary traumatic stress as referring to PTSD-like traumatoid states emerging from dysregulated affective states in the helper, and compassion fatigue as simply representing the fatigue that comes with caring.

Jenkins and Baird (2002) examined the constructs in a validation study of 104 trauma counselors. The counselors completed the Compassion Fatigue Self-Test

(measuring STS/CF), the Traumatic Stress Institute (TSI) Belief Scale (measuring VT) along with the Symptom Checklist-90—Revised and the Maslach Burnout Inventory (MBI). While the analysis did support statistically significant differences between VT and STS/CF in the directions suggested by the conceptual differentiation, these differences were not as strong as the authors had hypothesized, leading them to state that “CF/STS and VT are experienced both similarly and somewhat differently by trauma therapists” (Jenkins & Baird, 2002, p. 431).

Despite some conceptual difference, there is considerable overlap in the meaning of the terms vicarious trauma, secondary traumatic stress, and compassion fatigue. Stamm (2009) argues that though there are some nuanced differences, studies which have tried to differentiate the constructs have not found evidence of substantial differences. It appears that to some extent, the specific variables chosen by particular researchers reflect the evolution of terms and of empirical measures used to examine the concepts. Thus, the current literature review will include relevant studies using all three terms as variables. For purposes of this present empirical investigation, however, the term “compassion fatigue” will be used, and is assumed to incorporate the secondary trauma component, as suggested by Stamm (2005) and Figley (2002b). Stamm describes compassion fatigue/secondary traumatic stress as referring to “work-related, secondary exposure to extremely stressful events”, such as hearing the trauma narratives of others (Stamm, 2005, p.5).

Burnout. The phenomenon of burnout was initially explicated by Maslach in 1976, who described the construct as work-related emotional distress characterized by emotional exhaustion, depersonalization, and a sense of reduced personal accomplishment (Maslach, Schaufeli, & Leiter, 2001). Figley (1995b) chronicled

symptoms of the syndrome which include physical complaints (fatigue, sleep difficulties, somatic problems etc); emotional symptoms (such as irritability, anxiety, depression, or guilt), behavioral symptoms (such as callousness or cynicism about work, pessimism, substance abuse); poor work performance; and interpersonal symptoms (such as withdrawal and a tendency to dehumanize or intellectualize client's pain).

Burnout is generally assumed to be a result of workplace or institutional factors (Stamm, 2005). The strongest factor associated with burnout is a sense that the capacity and resources of the helper are insufficient to effectively help the client (Figley, 1995b). McCann and Pearlman (1990) suggest that the experience of burnout may be analogous to the pattern of numbing and avoidance which is common among trauma survivors, and may be a pathway to further problems.

Compassion satisfaction. Compassion satisfaction, though mentioned much less in the literature, relates to the positive feelings derived from doing helping work effectively (Stamm, 2005). Many helping professionals experience feelings of fulfillment and positive affect from the experience of helping, and it is important that these positive effects of the work be recognized as meaningful and potentially sustaining (Radey & Figley, 2007).

Risks and protective factors. Empirical and epidemiological studies are beginning to appear which give urgency to compassion fatigue and burnout as critical issues for professional education and the on-going care of helpers. Rates of compassion fatigue/ secondary traumatic stress among helping professionals range from 13-50% (Bride, 2007; Conrad & Kellar-Guenther, 2006; Sprang, Clark & Whitt-Woosley, 2007). Among mental health workers who provided treatment to the victims of the Oklahoma City bombing, over 41% were rated as being at high or extremely high risk for burnout

(Wee & Myers, 2002). Seibert (2006) examined a probability sample of 1000 National Association of Social Work members, and found lifetime rates of burnout at 75%, and a current rate of 39%.

Bride (2007) states that compassion fatigue/ secondary traumatic stress is beginning to be thought of as an occupational hazard to those who provide direct service to populations who are traumatized, and several authors speak of the practical and ethical responsibilities of addressing these risks with employees (Bell, Kulkarni, & Dalton, 2003; Cunningham, 2004). Additionally, some studies suggest such rates of compassion fatigue/ secondary traumatic stress and burnout may be related to the very serious problem of retention among child protection workers (rates averaging 30-40% according to the U.S. Government Accounting Office, 2003) and other human services professionals (Bride, 2007; DePanfilis, 2006; Figley, 1995b; Yankeelov, Barbee, Sullivan, & Antle 2009).

Researchers looking at risk and protective factors of compassion fatigue/ secondary traumatic stress and burnout have examined a number of institutional factors as well as personal/demographic clinician variables, with mixed results. In a 2004 meta-analysis of 15 studies examining secondary trauma, Bride states that the majority of studies found neither age nor gender to be predictive of secondary trauma symptoms in providers, and found mixed results for years of experience and personal trauma histories. He cited level of exposure to traumatized clients as a risk factor, and social support, supervisory support, and personal coping strategies such as a sense of humor as having protective effects. Sprang et al. (2007) found positive correlations between compassion fatigue and female gender, caseload percentage of PTSD clients, and rural location, but did not inquire about personal histories of trauma. Their research suggested that

specialized training and knowledge might provide some protection from compassion fatigue and burnout while enhancing compassion satisfaction.

According to Maslach et al. (2001), age is a significant predictor of burnout risk, but gender effects were mixed. While occupational variables traditionally assumed to be important (such as type of caseload and supervision) were significant predictors for burnout in Siebert's (2006) research, she contends that certain personal variables should be examined as well. These include including feeling overly responsible for clients and having difficulty asking for help, which her study also showed to be significant predictors of burnout (Siebert, 2006).

Killian (2008) completed a quantitative correlation study of a diverse sample of 104 trauma therapists, and found that social support, work hours, and internal locus of control predicted 41% of the variance in compassion satisfaction scores.

Traditional recommendations regarding risk management of compassion fatigue and burnout have largely been prescriptive, and include attention to self-care, a strong personal and professional support system, and a balanced caseload not overly weighted with traumatized clients. Little attention has been given to practitioners' ability to intentionally manage or regulate their own internal emotional state in response to exposure to painful client material.

Social Neuroscience, Neurogenesis, and Genomics

Interpersonal neurobiology. Before proceeding to a discussion of empathy, emotional separation, and mindfulness, I will describe a theoretical paradigm which emerges largely from social neurobiology and offers a brief description of the process by which humans develop capacities related to emotion regulation, memory, attention, and

social competence. This understanding underlies many of the arguments that will follow regarding the development of empathy, theory of mind, etc.

Daniel Siegel coined the term “interpersonal neurobiology” to describe his approach to understanding the complex interplay of social and biological forces affecting development. This approach involves integrating knowledge from a variety of fields, including anthropology, communications, social psychology, evolutionary biology, and cognitive and developmental neuroscience (Siegel, 1999). His basic hypothesis is that human beings are exquisitely social, and that we are wired from birth toward the development of social relationships. He argues that the mind of one person can directly influence the activity of another’s mind, as well as its development, by transferring energy and information through a variety of verbal and nonverbal responses, including words, non-verbal components of speech, facial expression, tone of voice, gestures, timing of responses, touch, etc. These social signals activate neuronal circuits that influence attention, the assignment of meaning, arousal levels, and emotional responses of the receiver (Siegel, 1999). Siegel proposes that the human infant is profoundly receptive to signals from caregivers, and that it is, in fact, the responses of caregivers that shape the infant brain in very basic ways, such as the development and refinement of self-regulatory capacities.

Eventually, patterns of communication and caregiving help the developing child organize himself and create strategies in relationships which become patterned and are then employed in more general contexts. These strategies can include emotion regulation, memory, attention, social competence, etc. (Siegel, 1999). Life experiences result in the creation of mental models (schemas) which shape attentional focus and allow for quick (and often unconscious) processing of information, for good or ill.

Eric Kandel, Nobel laureate neuroscientist and psychiatrist, suggests that this process of reciprocal communication and influence extends to the therapeutic relationship, in which both client and clinician are affected.

When a therapist speaks to a patient and the patient listens, the therapist is not only making eye contact and voice contact, but the action of neuronal machinery in the therapist's brain is having an indirect and, one hopes, long-lasting effect on the neuronal machinery in the patient's brain; and quite likely, vice versa (1998, p. 466).

This notion of *interpersonal* neurobiology is consistent with social work's historical perspectives and values, including a focus on strengths and resilience, recognition of the importance of relational factors, and an appreciation of the complex interplay of human agency and intent within the reality of limiting social influences.

Neural and genomic plasticity. I will also briefly discuss evidence for the recent recognition that experience shapes us even at a genetic and neuronal level, and affects the very structure of our brains. Though this discussion may seem to wander far from my discussion of compassion fatigue, burnout, and compassion satisfaction, my discussion of both empathy and mindfulness flow from these basic understandings.

Until recently, it was commonly believed that though the brain was plastic in infancy, by the age of 3-4 any capacity for growth and change was gone. A number of animal studies in the last 4 decades of the 20th century resulted in an explosion of information which suggested that brains (in animals) retained the capacity to change, even into old age, both in terms of altered density and pattern of synaptic connection, and in neurogenesis, the creation of new neurons. Neural growth and use-dependent neural “pruning” occurred in laboratory animals, particularly in the limbic and pre-frontal areas

of the brain (Begley, 2009). However, limitations on experimentation with human brains delayed testing the hypothesis of lifelong neurogenesis among humans. In 1998, a study (examining the brains of recently deceased cancer patients who, in the course of their treatment had been administered a diagnostic drug that marked newly created neurons) was able to determine that there was robust neurogenesis in the hippocampi of patients aged 50 through 70's (Eriksson et al., 1998). This landmark study showed that human brains, like the brains of rats and monkeys, are capable of neurogenesis (and not just synaptic growth) even into old age (Eriksson et al., 1998). We now know that interpersonal experiences, including those of deprivation and stress, can affect processes shaping the actual structure of the brain and consequent future responses to aversive experiences (Cozolino 2006; Perry, 2009; Shonkoff & Phillips, 2000; Siegel 1998).

Social genomics. Advances in the study of the human genome and the complex processes of genetic expression indicate that our physical and social environments affect whether, and in what way, our genetic potential is expressed (Kandel, 1998; Shonkoff & Phillips, 2000). Learning produces alterations in gene expression (Kandel 1998). "... All of 'nurture' is ultimately expressed as 'nature'." (Kandel, 1998, p. 463). While the genetic template for the entire organism is held in every gene, it is the regulation of gene expression that determines how a particular cell develops. This regulation, according to Kandel, is responsive to environmental factors. "The regulation of gene expression by social factors makes all bodily functions, including all functions of the brain, susceptible to social influences...[which are] transmitted culturally" (p. 461). "...Experience produces sustained changes in the effectiveness of neural connections by altering gene expression. This finding has profound ramifications that should revise our view of the relationship between social and biological processes in the shaping of behavior." (p. 463)

Effects of trauma on neural and genomic processes. There has been substantial research since Eriksson's breakthrough investigation of human neurogenesis which has examined a variety of "use-dependent" cortical changes, with implications for health and illness, resilience, and stress, and which directly relates to policies governing education, social programming, etc. Of particular relevance to this current study are findings about the negative effects of stress and trauma on the brain, both functionally and anatomically.

Sapolsky (2003), in a review of evidence regarding the effect of stress on neural functioning, called these pathogenic stress responses the "dark side" of otherwise exciting breakthroughs in neural plasticity, with effects ranging from inhibition of neurogenesis to the death of existing neurons.

Traumatic experiences may result in excessive amygdala activity and altered release of glucocorticoids and catecholamines, which may, in the short run, block hippocampal functioning, and in the long run may actually result in reduced hippocampal volume, as may occur in patients with chronic PTSD (Sapolsky, 2003; Siegel, 1999).

These toxic effects may impair brain systems responsible for self-regulation (Siegel, 1999). Explicit memories may not be encoded, though implicit memory may be retained and may result in the symptoms of easily triggered intrusive images, emotions and bodily reactions described in the PTSD literature.

Implicit trauma memories, dissociated from explicit processing and all its benefits (access to a lifetime of experience to temper the traumatic memory, creation of a coherent narrative that allows the trauma memory to be put into a particular--limiting— context, and the self-monitoring features of the pre-frontal cortex) can remain "unresolved" (Siegel, 1998, p 53). "When memories are stored in sensory and emotional networks but

are dissociated from those that organize cognition, knowledge, and perspective, we become vulnerable to intrusions of past experiences that are triggered by environmental and internal cues” (Cozolino, 2006, p.32.) These unresolved mind-states have negative implications for internal experiences of self and others, for response flexibility, contingent communication, emotional regulation, and consequently for interpersonal relationships (Siegel, 1998).

Empathy and Emotional Separation

Empathy is an ancient and complex concept. More than 2000 years ago, the Chinese sage Mencius suggested that this *feeling-with-and-for* fellow creatures forms the basis for social relationships and for morality (Muller, 2007). Various religions, Eastern and Western, have made similar claims, though the terms used, the definition suggested, and the proposed mechanisms of and motivations for such processes have varied. Philosophers from Aristotle to Adam Smith have acknowledged its conceptual utility while debating its nature.

Within the field of psychotherapy, the centrality of the notion of empathy as an acknowledged and important part of therapeutic intervention has waxed and waned. Opinions have varied as to its nature, and to its purpose. Some have held it to be useful in building relationship, in increasing treatment compliance, or in gaining insight into the unspoken or unconscious conflicts assumed to underlie psychopathology. Others have viewed it as holding some more complex reparative or curative function in its own right. Some see it as helpful because it allows people to see themselves through another person’s eyes and consequently shift out of rigid or limiting beliefs about self. Others see it as an opportunity for new ideas about the possibilities of relationship, or even as the core way that we are constructed as social beings.

Empathy and empathetic communication was a major area of investigation for a brief while during the 1960's and 1970's, with a number of research studies and considerable conceptual writing in the psychotherapy literature. Then, in the 1980's and 1990's, with the increasing move toward positivism in the social sciences and greater emphasis on psychotherapy technologies and techniques, scholarly attention given to empathy dropped off considerably (Bohart & Greenberg, 1997). Recently, however, this trend is changing. Empathy is receiving renewed interest as investigations into psychotherapy outcome have shown disappointing results for particular treatment technologies, and consistent support for "common factors" effects. Lambert and Barley (2001) report that the therapeutic alliance explains 30% of outcome variance, and of this, empathy is considered a major component. Greenberg et al. (2001) completed a meta-analysis of the effects of empathy, in particular, on psychotherapy outcome, and reported that empathy alone accounted for nearly 10% of outcome variance. "Overall, empathy accounts for as much and probably more outcome variance than does specific intervention" (p.2). Even among behavioral and cognitive therapies, therapist empathy is being identified as a major component in therapeutic change (Bohart and Greenberg, 1997). In addition, new discoveries in infant development, social psychology, and neurobiology are focusing renewed scientific attention on such concepts as empathy.

Views of empathy. Freud considered empathy important, but viewed it primarily as a therapeutic tool or technique used for the purpose of understanding the patient's internal world so that it could be interpreted (by the analyst) in order to bring about therapeutic insight; that is, he viewed it as a technique to facilitate the patient's attachment to the analyst in a way that might increase the analyst's access to data which would help with interpretation (Pigman, 1995, cited in Eagle & Wolitzky, 1997). Freud

described three consecutive steps in empathizing: drawing inferences from the observed data, drawing inferences from the inner responses of the analyst to the data, and finally, formulating hypotheses (Szalita, 1976). The patient was the object of the analyst's empathic apprehension, and the recipient of her/his insightful interpretation. It was the effective interpretation, in the end, that mattered.

Kohut's view of the role of empathy significantly expanded on that of Freud. Rather than seeing it only as a tool to facilitate interpretation (though this was important as well) empathy had the central position in healthy human development and in therapeutic intervention. Kohut believed that it was in the context of attuned, empathic caregiving that a child's sense of self develops, and that psychopathology occurred as a result of empathic failures on the part of the child's caregivers (Kohut, 1977). The therapeutic encounter offers the possibility for the client to experience the kind of empathetic mirroring he may have missed earlier in his development, which is itself reparative (Eagle & Wolitzky, 1997).

According to Kohut (1977), empathy involves two principles. One is an emotional response, the other cognitive. In the first, which Kohut calls the "emperor's-new-clothes-principle," he speaks of the need for the "naïve courage of the observer" (p. 144) who is willing to set aside preconceptions and emotionally enter the world of the client. The second principle he calls the "Rosetta-stone principle," which requires that the meaning of the emotionally perceived data must be "established in analogy to the validation procedure employed in the deciphering of hieroglyphics;" that is, through cognitive activity the observer understands the meaning of that which is observed by combining the information with all of the other information about the observed, his situation and experiences, etc. (Kohut, 1977, p. 144). He also suggests the necessity of

an intentional, effortful, cognitive stance on the part of the therapist: “It follows then that consistent introspective scrutiny of oneself prepares one for a more consistent and a more reliable perception of the inner life of others with the use of one’s increasingly trained empathic instrument” (Kohut, 1975, as cited in Tolpin & Tolpin, 1991).

For Kohut, then, empathy is both a condition of healthy psychological development, and a therapeutic stance on the part of the analyst. This stance involves a willingness to enter into a “naïve”, receptive, emotional openness, and a commitment to rigorous cognitive introspection in order to accurately understand the meanings of the client’s emotional experiences. It is “that which allows an individual to experience another’s experience without losing one’s ability to evaluate objectively another’s mental state...an experience-near observation” (MacIsaac, 1997, p.248).

Kohut outlines a definition of empathy which includes both openness to direct perception of the position of the other, and intentional cognitive processing which allows for understanding of meaning. He clarifies the need for a separation of self from the other, and emphasizes that the capacity for accurate empathy can be developed through intentional effort on the part of the therapist (Eagle & Woltzky, 1997). The concept seems to involve “a virtually instantaneous response to nonverbal communications” (Szalita, 1976, p.148), as well as intentional cognitive processing, and requires the ability to keep oneself separate. “It is good to be able to put yourself into someone else’s shoes, but you have to remember that you don’t wear them” (Szalita, 1976, p.145).

Carl Rogers is the name perhaps most commonly associated with the notion of empathy in therapeutic relationships. According to Rogers (1957, 1961), psychopathology results from the conditional demands placed on people by society, and the role of the therapist is to empathically understand, mirror and “prize” the client in

order to facilitate the courageous claiming of a state of existential wholeness from which s/he can authentically act and accept responsibility for those actions (Rogers, 1957).

Rogers (1961) defines empathy as:

...experiencing an accurate... understanding of the client's world as seen from the inside. To sense the client's private world as if it were your own, but without ever losing the 'as-if' quality—this is empathy, and this seems essential to therapy. To sense the client's anger, fear, or confusion as if it were your own, yet without your own anger, fear or confusion getting bound up in it, is the condition we are endeavoring to describe" (p.284).

He included it as one of three "necessary and sufficient" conditions of therapeutic personality change, along with congruence and unconditional positive regard (1957, pp. 98-101). Rogers doesn't attempt to explain the mechanics of empathic perception, but does suggest that the capacity emerges from the therapist's own authenticity, and speaks to the need for the therapist to intentionally cultivate this kind of congruent, attentive *presence* (Rogers, 1961).

Rogers decried the emphasis on formulaic "reflective listening" comments which emerged among his followers, and said that therapeutic empathy was more a way of *being* rather than *doing* (Rogers, 1980). Mindell (1992, cited in Bozarth, 1997, p. 92) suggests it is not the particular response skills that are important, but rather the "metaskills" (the "attitudinal qualities of the therapist") that form the basis of the responses. Like Kohut, Rogers speaks to the need to suspend previous cognitive frames in order to accurately apprehend the client's internal world, while at the same time maintaining a separate, observing self. Bozarth (1997) suggests that Rogers' later writing emphasized the immediate, intuitive perception of the attuned therapist, and the

non-rational empathic response: “I find myself bringing out my own inner experience statements which seem to have no connection with what is going on but usually prove to have a significant relationship to what the client is experiencing...” (The Gloria Film, Rogers, 1965, cited in Bozarth, 1997, p.95).

Because operationally defining empathy, much less measuring it, was difficult to accomplish, the concept received relatively little attention in the 1980’s and 1990’s (Bohart & Greenberg, 1997). Recently, with increasingly sophisticated understanding of neural and developmental processes, this situation is changing.

Empathy as hardwired? Siegel (1999) suggests that the capacity for empathy is hardwired, but that relational experiences influence the process of human development, emphasizing the importance of accurate empathic connection between caregiver and child. He uses the terms *alignment* (in which one individual alters his mental state toward that of the other, or two persons alter their states bilaterally to approximate the other’s), *attunement* (in which internal emotional states are brought into awareness and communication with each other, though they are not necessarily aligned) and *resonance*, (in which the experiences of alignment and attunement mutually influence the two parties involved across other aspects of their minds, and over time). Siegel suggests that the quality of these experiences in our early lives influences our attachment relationships and directly influences psychological health and psychopathology. Healthy human development requires contingent connection to others; without such interactions with others, people suffer, become ill, and in some cases even die. “From birth until death, each of us needs others who seek us out, show interest in discovering who we are, and help us feel safe...Relationships are our natural habitat” (Cozolino, 2006, p.11).

Siegel argues that despite being most robust early in life, neural growth continues across the lifespan, and extrapolates his ideas about the influence of attuned, empathic experiences in infancy to suggest that healing experiences later in life, including psychotherapy relationships, may be rooted in the same principles of emotional attunement, contingent communication, and neural growth (Siegel, 1999, 2006).

Like Siegel, Daniel Goleman describes a hard-wired, biological predisposition toward social connection, and toward feeling what others feel, which he says is present in some form across most species. This “primal empathy” is responsible for sympathetic distress (responding to signals from others that they are in distress) and emotional contagion (feeling the emotions of another), and serves an evolutionary survival function. Among higher species, however, this primal empathy is accompanied by more complex systems of perception, cognitive appraisal, emotional attunement, and action, which more fully encompass the notion of human empathy (Goleman, 2006).

Mirror neurons and “embodied simulation”. Both Siegel and Goleman cite recent discoveries in neuroscience, and particularly the discovery (and continuing exploration) of the *mirror neuron system*, to explain the likely mechanisms of action in these seemingly inborn interpersonal capacities. In 1992, Rizzolatti and Gallese reported a serendipitous discovery made while studying how macaque monkeys respond to different stimuli. They had wired individual neurons in the monkeys with electrodes to study firing responses associated with the presentation of different objects and with different movements. They found that particular neurons fired with specific stimuli, e.g., when the monkey reached for a peanut. When one of the researchers happened to reach for a peanut himself in the course of the observation, the very same neurons fired in the observing monkey (Winerman, 2005). Further experimentation showed that particular

actions (eating the peanut, raising a cup to drink, etc.) triggered responses in particular neurons, *whether the action was performed or observed*, though the strength of the response was less for the observed action than for that performed by the monkey (Iacobono, 2007). Siegel suggested that by observing an action, the monkey's motor system was "primed" to imitate that action (2006, p.13).

While it is not possible to place electrodes on individual human neurons, sophisticated fMRI imaging has allowed researchers to study this same phenomenon in humans, with results suggesting a more complex and extensive mirror neuron system which extends not just to motor actions, but to intentional and emotional states as well (Dobbs, 2006). Gallese (2005) explains this in terms of "embodied simulation" or modeling: "...to perceive an action is equivalent to internally simulating it. This enables the observer to use her/his resources to experientially penetrate the world of the other by means of a direct, automatic, and unconscious process of simulation" (p.1).

Theory of mind. Siegel suggests that it is through this process that we develop "theory of mind", or "mindsight", "the ability to detect that another person has a mind with a focus of attention, an intention, and an emotional state different from our own" (1999, p. 200; 2007, p. 168). Developmentally, this ability begins in the first year of life and, with normal development, continues for some time. Certain disorders (autism, e.g.) and certain kinds of early nurture (e.g., when parental states are intrusive or disorganizing) can result in impaired capacity for perceiving and understanding the mental states of others (Siegel, 1999). Goleman (2006) also states that this ability to apprehend what another person is feeling and thinking develops steadily in the first several years of a child's life and forms the basis for empathy and moral thinking. By about age four, children "have attained the basics in empathy that they will draw on

throughout life—albeit later on with higher levels of psychological and cognitive complexity” (p.136). And recent fMRI studies attempting to map the development of the mirror neuron system in children indicate that “the whole circuitry for empathy ...is already functioning in 10-year olds” (Iacoboni, 2007, p.240).

Siegel and Hartzell (2003) and Goleman (2006) both use Joseph Le Deaux’s (1996) notion of “low road” and “high road” neural processing, and Goleman applies these to what he describes as the two distinct paths of empathy. The first involves a fast, automatic, “low-road” flow of information that runs from the sensory cortices to the thalamus and then to the amygdala, generating an almost immediate perception and emotional response. This corresponds to the kind of immediately-felt, “primal empathy” or emotional contagion discussed above. The second is a slower path that goes through the thalamus, loops through the thinking brain in the neocortex, down to the amygdala, and allows for a response that is tempered by our stored experience and wisdom.

Empathy seems to involve both emotion sharing (bottom-up information processing) and executive control to regulate and modulate this experience (top-down information processing) (Decety & Lamm, 2006). Decety and Lamm (2006) analyze conceptions of empathy from evolutionary, cognitive neuroscience, and social psychological perspectives. They speak of the remarkable capacity of humans to empathize with and care for “virtually any target,” even those of a different species (p.1148). Empathy occurs in varying degrees of intensity and complexity, ranging from “mere agitation at the distress of another to full understanding of their predicament” (Preston & de Waal, 2002, cited in Decety & Lamm, 2006, p.1147).

While likely based in the kind of somatic mimicry Goleman called “primal empathy”, which serves an evolutionary function (e.g., when one hears a scream, somatic

mimicry prepares the brain for action), human empathy generally involves the capacity to engage in role-taking and imagine the experience of the other. This ability to take on the perspective of the other seems to involve processes beyond mere mimicry, and “results in specific activation of parts of the frontal cortex that are implicated in executive control”, allowing the observer to maintain separate perspectives (Decety & Jackson, 2004, cited in Decety & Lamm, 2006, p.1151).

It appears, then, that from multiple views, the experience of empathy involves several processes, including emotion sharing, perspective taking, and emotion regulation. Siegel and Goleman also emphasize the need for emotion regulation skills and a clear sense of a separate self. Both suggest that qualities of attention and self-awareness are important mediators of empathic responses. Goleman (2006) states that “The more sharply attentive we are, the more keenly we will sense another person’s inner state: we will do so more quickly and from subtler cues, in more ambiguous circumstances (p. 54).” He quotes research from Ikkes (p.88) suggesting that “full listening maximized physiological synchrony, so that emotions align” and empathy is improved. Importantly, emotional distress or anxiety cause stress chemicals to flood the prefrontal cortex and reduce our attention to the person observed, resulting in weaker and less accurate empathy. “Self-absorption kills empathy. “ (Goleman, 2006, p.54)

Siegel (2007) cites research from Iacoboni suggesting that the mirror neuron system not only allows us to represent intentional states of others, “but could mediate the basic mechanisms of emotional resonance so fundamental to relationships” (p. 167). He suggests that the implications for psychotherapists are profound. Through developing the skills of attention to the other, and “interoception” (perceiving inward to sense what we are feeling in our own body as a result of our mirrored experience of the other), therapists

can offer accurate understanding and attuned empathy (p.103). Cozolino (2007) similarly suggests that empathetic attunement between helper and client may occur through activating the same sort of neural processes involved in attachment and bonding.

Empathy, from this point of view, is viewed as a necessary condition for healthy human development. It is rooted in social-interpersonal capacities apparently hard-wired at birth, which are further developed as the child begins to develop the cognitive abilities of theory of mind and perspective taking. For empathy to be further developed, it appears to be critically important that the empathizer have the mental flexibility and strong emotion regulation skills to maintain a separate self so that s/he can simultaneously perceive and feel-with the experience of the other but *not become the other* (Decety & Lamm, 2006).

It is significant that the various descriptions of the empathetic process all refer to a process of almost intuitive apprehension of some sort of “information” from the client, received by a therapist who is *intentionally attentive* in a particular way. All descriptions suggest a secondary cognitive process (though not necessarily much delayed, as illustrated by Rogers’ comments) whereby this apprehended information is stirred together with other experience and knowledge (about this particular person, and about people and life in general) for a deeper and more contextual understanding . All descriptions stress the importance (and the delicacy) of the therapist accurately *feeling with* the client, while steadily maintaining a separate self that does not emotionally merge with the client. All comment on the need for a degree of personal maturation or development on the part of the therapist.

Empathy, emotional separation, compassion fatigue, burnout, and compassion satisfaction. Notions regarding compassion fatigue, burnout, and

compassion satisfaction in relation to therapeutic empathy are complex, and likely interrelated. Variables not yet fully understood may affect both. For example, recent work looking at emotional contagion and vicarious trauma suggest that empathy may be a double-edged sword, exposing the clinician to greater risk of vicarious trauma (Decety & Lamm, 2006; Figley, 2002a, 2002b; Rothschild, 2006; Sexton, 1999). Siebert et al.'s 2007 study of emotional contagion found positive correlations with burnout, depression, and professional impairment. Goleman (2006) states that empathy seems to be a physiological as well as mental phenomenon, in which the empathizer mirrors the physiological state of the person with whom she empathized, and reminds us "the emotions we catch have consequences" (p.25-26).

While empathy is important for social workers and other human service professionals in their efforts to help the traumatized, it may also be a major pathway for the "induction" of traumatic material from client to therapist (Figley, 1995b). In a 1982 study, Corcoran (1982; 1983) examined empathy along with the concept of emotional separation and found that higher empathic resonance was associated with lower levels of emotional separation. Similarly, Figley (2002a) argued that a psychotherapist's ability to disengage from the client's experience provided a protective effect on compassion fatigue/secondary traumatic stress. Badger, Royse and Craig's (2008) study of hospital trauma social workers found that lower levels of emotional separation were correlated with higher levels of vicarious traumatization, suggesting that effective practice might hinge on the right balance of empathy and emotional separation. Miller, Birkholt, Scott and Stage (1995) found that empathy influenced burnout levels among a sample of human service, administrative and clerical employees working with homeless populations, but found that different aspects of empathy worked differently, with

empathic concern associated with lower burnout and emotional contagion associated with higher levels of burnout. Corcoran, however, (1989) found that when emotional separation was controlled, empathy was not a predictor of burnout.

Various authors (Badger et al., 2008; Cunningham, 2003; Figley, 1995b; Siebert, 2004, Wilson, 2004) express concern about the potential negative effects for clients as well as professional helpers when those professionals are stressed or distressed, or when they have lost (or exorcised) their capacity for empathy in the face of burnout or compassion fatigue/secondary traumatic stress. If empathy is critical to the therapeutic alliance, and empathy without the ability to remain separate from the client increases risk for compassion fatigue, then both the helper and the client stand to suffer without the right balance of empathic concern and emotional separation.

Mindfulness

Until recently, mindfulness has been largely associated with Eastern meditative and Christian contemplative traditions ((Dimidjan & Linehan, 2003). Despite its roots in spiritual practices, a growing number of researcher/clinicians in various fields (psychology, neuroscience, behavioral medicine) suggest that *mindfulness* offers promise in terms of intervention with various troubled client populations.

Interest in the study of mindfulness—its nature, effects, and mechanisms of action—has “quietly exploded” in the last few years (Brown, Ryan & Creswel, 2007, p. 211). A growing body of research indicates that mindfulness practice positively affects affect regulation and plays a mediating role on stress and trauma-related problems (Creswell et al., 2007; Brown & Ryan, 2003; Baer, 2007) as well as having a salutary effect on a broad constellation of physical, psychological, and relational variables. Until

very recently, most of the research regarding mindfulness has been directed toward the examination of treatment effects in clinical populations.

Conceptual and methodological issues. Baer's 2003 literature review states that "mindfulness-based interventions may help to alleviate a variety of mental health problems and improve psychological functioning" (p. 139) but cautions that the current research is limited by a number of conceptual and methodological problems.

The primary question in examining the theory of mindfulness as clinical intervention is the problem of clarity and agreement regarding an operational definition. While the most commonly quoted definition of *mindfulness* is "paying attention in a particular way: on purpose, in the present moment, and non-judgmentally" (Kabot-Zinn, 1994, p.4), it has also been defined as "enhanced attention to and awareness of current experience or present reality" (Brown & Ryan, 2003, p. 823); "non-elaborative awareness of present-moment experience" (Chambers, Gullone, & Allen, 2009, p. 561); "awareness of present experience with acceptance" (Germer, Siegel, and Fulton, 2005, p.7); and "focusing one's attention in a nonjudgmental or accepting way on the experience occurring in the present moment" (Baer, et al., 2004, p.191).

Linehan (2003) defines mindfulness as a combination of three behavioral components: (1) observing, noticing, bringing awareness; (2) describing, labeling, noting; (3) participating) along with three qualities relating to the manner in which the three behaviors are carried out: (4) non-judgmentally, with acceptance, allowing; (5) in the present moment, with beginner's mind; and (6) effectively (p.166).

While most definitions include components of present-focused awareness and non-judgmental acceptance, there is no one precise wording that would guarantee that the various clinicians and researchers purporting to teach, model, or measure *mindfulness* are

using identical concepts. The problem is not just in operationally defining mindfulness, but also precisely defining component terms. What, exactly, comprises awareness? What does it mean to focus on the present moment? What is involved in acceptance? In Linehan's definition, for example, *mindfulness* involves engaging in non-judgmental observation and labeling of present experience, but the definition also includes the descriptors "participating" and "effectively". One can see the possible usefulness of these terms in the application of mindfulness to her particular DBT model of intervention, but when offered as part of a general definition, things become blurry.

While the problem of definitional precision is overtly acknowledged by researchers, the semantic ambiguity and vagueness of terms used thus far pose a limitation to the existing literature, both in terms of conceptual clarity and methodological rigor. Further complicating the issue is that mindfulness is considered a dispositional trait, and a state, as well as a term used to describe activities such as meditation used to attain the state of mindfulness (Chambers et al., 2009).

Other conceptual concerns involve isolating the locus of intervention (and consequent proposed mechanisms of action in the model). Is *mindfulness* client-focused, with intervention focused on teaching a particular set of skills? Is it focused on the person or presence of the therapist which then somehow affects the client? Is the interaction between therapist and client the target? Most treatment approaches which involve instructing clients in mindfulness skills also emphasize the importance of clinicians having a solid and on-going mindfulness practice themselves, yet studies which have examined efficacy of treatment interventions have not differentiated these potentially different targets. Would clients benefit similarly by attending meditation training in a non-therapeutic setting (e.g., a local Zen center) while attending therapy with

a clinician low on *mindfulness* but skilled using a different treatment modality? Would patients who receive treatment-as-usual, but delivered by a therapist who had honed mindfulness skills through long meditation practice, do better than those who saw therapists who did not possess such skills? Is there a curative aspect from a therapeutic encounter in which both clinician and client are “practicing mindfulness”?

The lack of specificity regarding definition of terms and locus of intervention could lead to serious methodological problems. Germer, Siegel and Fulton (2005) describe a range of approaches which could be considered “mindfulness-oriented psychotherapy”, including 1) mindful presence by the psychotherapist; 2) “mindfulness-informed psychotherapists,” who use a theoretical frame of reference derived from mindfulness practice or mindfulness literature but don’t actually teach mindfulness skills; and 3) “mindfulness-based psychotherapy” in which mindfulness skills are explicitly taught (p. 18-19). Even when mindfulness is explicitly taught, the interventions range from fairly intensive training in meditation practice (MBSR, MBCT), to smaller mindfulness exercises and instructions included as part of a protocol that involves a number of other treatment components (DBT, ACT). Length of treatment varies from 8-week training sessions (MBSR) to a year or more of individual and group treatment (DBT). While particular intervention models have protocols regarding mindfulness training, it is difficult to compare models. Can the intensive application of mindfulness training used, for example, in MBSR (which involves weekly 2-3 hour classes along with daily homework of 45 minutes of mindfulness practice) be compared with the less formal use of brief mindfulness exercises in ACT? Do they involve the same processes?

What is interesting is the degree to which these researchers and authors are careful to avoid language that smacks of the mystical or spiritual. Though

acknowledging that such care is probably necessary to achieve scientific credibility, some authors have been willing to muse about whether they may, in the service of trying to do good science, chop off important parts of the traditional notion of mindfulness as understood in the earlier spiritual traditions, because of difficulty specifying or quantifying ideas such as wisdom, equanimity, or enlightenment (Dimidigan & Linehan, 2003; Baer, 2003). This may be a valid concern. Deconstructing a kiss and analyzing its component parts may deliver a very poor accounting of its effect, value, or mechanisms of action (not to mention implications for instruction.)

There are also possible confounding mechanisms or alternative explanations for change, which have not consistently been isolated or addressed in the existing research. This raises both methodological and conceptual concerns. For instance, since the very skills encouraged in mindfulness-oriented treatment approaches usually involve the presence of non-reactive and non-judgmental therapists as mentors and models, it may be conceptually difficult to separate out modeling, relationship factors, associations with spiritual traditions, etc.

The application of mindfulness theory to clinical intervention is a relatively new area of study. It is clear that many of the clinician/researchers currently involved in the study of mindfulness are keenly aware of the need to clarify terms and standardize treatment protocols in order to refine our understanding of to what extent, and by what mechanisms, mindfulness interventions are effective. While it is important that researchers employ conceptual and methodological rigor in specifying and evaluating the theory involved, it may also be important to be alert to the possibility that gaining rich conceptual clarity about mindfulness theory may require (or at least benefit from) an

understanding of historical traditions and texts, and a genuine openness to the possibility that there may be ways of knowing not yet understood by traditional science.

Since this is an exploratory study, I will review a variety of studies of mindfulness and mindfulness interventions. Studies examining neurobiological and genomic arguments about effects or mechanisms of action of mindfulness are summarized in Table 1, p. 78. Studies related to clinical training or professional quality of life are summarized in Table 2, p.79-82. These include a qualitative analysis of a very small group of practicing meditators, cross- sectional studies examining correlations between mindfulness and other variables, and experimental studies (of varying degrees of rigor) looking at effects of mindfulness interventions on variables considered relevant.

Mechanisms of action. A number of possible explanations for the salutary effects of mindfulness have been discussed in the literature (see reviews in Baer, 2003; Brown, Ryan & Creswell, 2007; Chambers et al., 2009; Chiesa & Serretti, 2009).

Baer (2003) summarized a number of possible mechanisms of action which have been suggested for the documented benefits of mindfulness in clinical populations, including: 1) exposure, in which prolonged exposure to uncomfortable thoughts or feelings, without attempts to avoid or escape them, may lead to lowered emotional reactivity; 2) cognitive change, where a non-judgmental, decentered approach to thoughts may allow people to understand that they are not their thoughts, and that their thoughts are not always true; 3) improved self-management, where as a result of improved and more timely self-observation clients may improve their use of a variety of coping skills; 4) relaxation, which though not an intentional goal of mindfulness practice is often a corollary effect; and 5) acceptance, of reality, change, pain, or negative emotion .

Other researchers have focused on the direct effects mindfulness may have on gene expression and on neurobiology, hypothesizing that it is change at the level of genomics and neurobiology which explain the biological, cognitive and psychological changes attributed to mindfulness.

Genomic and neurobiological findings. Stating that “It is becoming increasingly clear that psychosocial stress can manifest as system-wide perturbations of cellular processes, generally increasing oxidative stress and promoting a pro-inflammatory milieu” (p. 5), Dusek et al (2008) conducted a study to explore the gene expression profile of healthy long term meditation practitioners, novices, and those same novices after 8 weeks of training. The training included breathing exercises, mindful body scan, mantra and mindfulness meditation. The researchers used both cross-sectional and prospective designs. Long-term meditators and healthy novices were assessed by microarray analysis to compare gene expression profiles, and then the novices were given an 8-week intervention and measured again. The sample involved 19 healthy volunteer meditation practitioners (with an average of 9.4 years practice experience), and 20 healthy volunteers without such experience. The groups were matched with respect to age, gender, race, height, weight, and marital status, with no significant between-group differences. There was significant difference in gene expression between the long-term meditator group and the novice group in the cross-sectional study (with 1275 genes significantly up-regulated, and 934 down-regulated). In the novice group, 1561 genes were differentially expressed after the mindfulness intervention, with changes in the same directions as shown in the cross-sectional study. The authors suggest that the alterations in gene expression associated with the mindfulness intervention may serve to facilitate a greater capacity to manage stress effects and to ameliorate the impact of stress.

Hoppes (2006) reviewed research on the biological and neurological effects of meditative practice, including studies showing evidence of increased cortical plasticity and increased left-side anterior cortical activation, associated with positive emotional states. A 2007 study (Creswell, Way, Eisenberger, & Lieberman) using functional magnetic resonance imaging found that dispositional mindfulness was associated with increased activation of the prefrontal cortex, and reduced amygdala activity during a task involving affect labeling. The authors suggest that these results may indicate a possible neurocognitive mechanism for how mindfulness might reduce negative affect and mood disturbance. In another study, (Luders, Toga, Lepore & Gaser, 2009) the authors wanted to explore links between meditation and brain structure. They recruited 22 active meditators and 22 controls matched for gender and age. Using advanced MRI technology, they found significantly increased grey matter in meditators compared to controls in the right orbito-frontal cortex, right thalamus, left inferior temporal gyrus, and right hippocampus. The authors suggest that increases in grey matter in the orbito-frontal cortex (including number, density, size or wiring patterns of neurons and neuronal connections) may help explain the findings of previous studies that meditators had unusually strong emotional self-regulation and behavioral flexibility skills, as well as better ability to disengage from automatic thoughts and habits, and more ability to consider a range of options.. Similarly, they argue that larger hippocampal volume “may account for meditators’ singular abilities and habits to cultivate positive emotions, retain emotional stability, and engage in mindful behavior, and to pay attention to external and internal stimuli and modulate cortical arousal and responsiveness” (Luders et al, 2009, p.677).

While most discussion of altered structure in the brains of meditators focused on the limbic and neocortex areas, Vestergaard-Poulsen et al (2009) examined structural differences in the lower brainstem (involved in basic autonomic regulation) in long-term meditators. They used MRIs to compare 10 experienced meditators with 10 age-matched controls, and found significantly increased levels of grey matter density in areas of the brainstem, especially the medulla oblongata, which contains the autonomic nerve system structures. They suggest this may help explain the mechanisms by which meditation can induce increased resistance to stressful stimuli, increased attentional skills, and increased calmness.

Metacognitive processing. It is neither surprising nor inconsistent that neural plasticity is mentioned in several accounts discussing proposed change mechanisms, as neural growth is likely a corollary to many forms of intervention (including psychotropic medication, cognitive therapies, and relational interventions). Most of the suggested mechanisms of action for mindfulness, however, fall loosely in the cognitive-behavioral domain, though in new ways, with “meta-level emphasis on the process of thought and emotion rather than content” (Hoppes, 2006, p. 836).

Brown, Ryan and Creswell (2007) outlined several core concepts of mindfulness that are likely to be most relevant in the empirical study of the construct as related to salutary effects.. First among these is clarity of awareness of both one’s internal and external worlds, “including thoughts, emotions, sensations, actions, or surroundings...” (p. 213). They characterize this as “unbiased receptivity of mind” (p. 213) which facilitates “unhindered access” (p. 213) to all that one knows (emotional and intuitive knowledge, as well as cognitive). Because some knowledge may represent a threat to the self, the attitudes of acceptance and non-judgment inherent to mindfulness may promote

improved awareness of self and others, and reduce unconscious, impulsive, or defensive reactions.

According to Constructivist Self Development Theory, we are constantly filtering and interpreting the world and our experiences based on our particular cognitive schemas, *but those schemas are subject to deconstruction and reconstruction* (Saakvitne et al., 1998). A mindful approach may reduce the urge to compare, categorize, evaluate, and avoid our experiences. This “disentanglement of consciousness from cognitive content may allow thought to be used with greater effectiveness and precision “(Brown et al., 2007, p. 213) and allows for more choiceful engagement (and disengagement) from pre-conceived beliefs and biases.

Other core processes mentioned by Brown et al. (2007) include improved attentional control and flexibility, allowing for a “fluid regulation of states of attention and awareness”; and an empirical stance toward present experience, with receptivity to what is occurring but with a deferral of judgment, and reduced “time traveling” (p.214) into projections into the future and revisiting of the past.

Moore and Malinowski (2009) compared a group of 25 persons with mindfulness meditation experience with a matched group of 25 meditation-naïve controls. All participants completed the Kentucky Inventory of Mindfulness (Baer, Smith, & Allen, 2004) and measures of attentional performance and cognitive flexibility, with results showing significantly better performance on the attention measures among meditators. The authors state that the results suggest “that mindfulness is intimately linked to improvements of attentional functions and cognitive flexibility” (p. 176).

Baer (2007) speaks of the emergence of awareness and focus on *transdiagnostic approaches to psychopathology* which examines cognitive and behavioral processes

common to many different disorders. She suggests that an understanding of these processes may help explain why mindfulness may have such broad benefit to a host of different problems. These transdiagnostic processes include both ruminative thought patterns and experiential avoidance, “negative evaluation of and unwillingness to maintain contact with internal experiences, such as sensations, emotions, and cognitions, and efforts to avoid or escape these experiences, or the situations that occasion them, even when doing so is harmful (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996, as cited in Baer, 2007, p. 240). Baer (2007) cites research evidence that the practice of mindfulness has a positive effect on both reduction of rumination and on reduction of experiential avoidance.

Mindfulness as a clinical training tool. Evidence from trials in clinical populations suggests that one of the primary benefits of increased mindfulness may be an improved ability to intentionally and flexibly regulate attention and emotional reactivity. Siegel (2007b) suggests not only that emotional self-regulation of the therapist contributes to the client’s ability to learn to regulate his/her own emotions, but also that the therapist’s ability to self-regulate can be improved with mindfulness practice.

Recently, several studies in psychology, behavioral science, and medicine have been published which have implications for the use of mindfulness as a clinical training tool (e.g., Beitel, Ferrer, & Cecero, 2005; Creswell et al., 2007; Shapiro, Schwartz, & Bonner, 1998). These studies suggest that mindfulness may enhance the capacity for empathetic attunement on the part of the helper, while at the same time offering protection from distressing affect.

A 1998 randomized matched study examined medical and pre-medical students who were recruited to participate in an enrichment elective, which consisted of an 8-week

mindfulness meditation intervention program. The researchers randomly assigned the 78 participants to an intervention group or a wait-list control group. Groups were matched for gender, race, and medical student vs. pre-med student status. Participants completed several standardized scales (empathy, measures of psychological symptoms including depression, state-trait anxiety, and an index of spiritual experiences). In addition, they were asked to journal and complete an evaluation packet with qualitative reports. The authors reported that the intervention group showed significant differences in reported lower overall psychological distress (including depression and both state and trait anxiety), increased scores on self-perceived spiritual experiences, and higher overall empathy scores. These results were replicated in the wait-list control group (Shapiro, Schwartz, & Bonner, 1998).

Beitel, Ferrer, and Cecero (2005) surveyed 103 undergraduate students to examine the relationships between psychological mindedness (“awareness and understanding of psychological processes, such as thoughts, feelings and behaviors”, p. 140), mindfulness, self consciousness, and empathy. Horowitz had previously theorized that psychological mindedness and mindfulness were very similar constructs (as cited in Beitel et al, 2005). Both psychological mindedness and mindfulness showed significant positive correlations with perspective taking and empathic concern, two subscales of the Interpersonal Reactivity Index (which measures aspects of empathy), while negatively correlating with a third subscale, personal distress.

Galantino, Vaime, Maguire, Szapary, and Farrar (2005) completed a study (no control group) of 84 hospital health care professionals (both administrative and direct patient care) who received an 8-week mindfulness meditation program. The researchers administered a mood inventory, the Maslach Burnout Inventory, the Interpersonal

Reactivity Index (to measure empathy), and took salivary cortisol levels before beginning the intervention and at 8 weeks post-intervention. They found that mood and emotional exhaustion improved in the treatment group, although in this study, empathy was not affected. In contrast to the hypothesis, the intervention did not result in statistically significant differences in salivary cortisol.

Beddoe and Murphy (2004) found that an 8-week mindfulness intervention with a convenience sample of nursing students ($n = 16$) significantly reduced student's anxiety and showed downward (but non-significant) trends in several stress measures and in the fantasy and personal distress subscales of the Interpersonal Reactivity Index. In another study of nurses and nurse aides ($n = 30$) with a wait-list control group, Mackenzie et al., (2006) reported that mindfulness significantly reduced burnout and improved relaxation and life satisfaction.

Arch and Craske's 2006 study used random group assignment to examine whether a focused breathing induction, adapted from a Kabat-Zinn MBSR mindfulness meditation exercise, would affect the intensity and negativity of responses to aversive visual slides among a non-clinical population of undergraduate students ($n = 60$). Using both self-report measures and heart rate, they found that use of the focused breathing exercise correlated with lower emotional reactivity and greater affect tolerance in the face of negative stimuli.

In a non-randomized control group trial among 2nd yr. medical students, Rosenzweig, Reigel, Greerson, Brainard, and Hojat (2003) compared an MBSR group with a group who received a didactic seminar surveying alternative and complementary medicine. The control seminar group did not receive training in meditation or other mind-body techniques. Using the Profile of Mood States (POMS), they showed that

while the control group showed movement in a negative direction during this very stressful (2nd year) juncture in the medical curriculum, the MBSR group showed statistically significant change in a positive direction for total mood scores as well as anxiety, vigor, fatigue, and confusion. The authors concluded that the MBSR program improved psychological health for medical students during a stressful time when psychological health worsened for the control group.

Carmody, Baer, Lykins, and Olendzki (2009) questioned whether mindfulness predicts changes in self-regulation, values clarification, cognitive and behavioral flexibility, and psychological symptoms, and whether these changes are mediated by changes in “reperceiving” or decentering. They examined adults who enrolled in 17 MBSR classes at the University of Massachusetts Medical Center for MBSR training during an 11- month period in 2006-2007 (n = 309). Paired sample t-tests showed that all variables changed significantly, in salutary directions, with moderate to large effect sizes. However, there was little evidence of a mediating relationship between mindfulness and reperceiving, as had been hypothesized, but rather that they were highly overlapping constructs, both of which improve over the course of MBSR and both of which influenced the dependent variables.

Brenner (2009) completed a qualitative study to explore the influence of a personal meditation practice on the professional work of clinical social workers (n = 10) and suggested that training in meditation may result in increased awareness and capacity for understanding clients at a deep level, as well as an improved ability to maintain attentional focus on present events, and increased cognitive flexibility.

Dekeyser, Raes, Leijssen, Leysen and Dewulf (2008) examined the factor structure and internal reliability of the Kentucky Inventory of Mindfulness Scale (KIMS,

Baer, Smith & Allen, 2004), a precursor to the Five-Facet Mindfulness Inventory used in this study, in a sample of Dutch speaking psychology students ($n = 113$) and parents ($n = 246$). They also examined the KIMS scores in relation to measures of interpersonal behavior, empathy, social anxiety and performance, self-esteem and body satisfaction. The study replicated the factor structure and internal reliability of the KIMS scale as described by Baer et al., 2004. All elements of mindfulness were positively associated with expressing oneself in various social situations. The *observation* subscale of the KIMS was associated with more empathic engagement, and the *describing*, *acting with awareness* and *non-judgment* subscales were associated with better identification and description of feelings, body satisfaction, and less social anxiety and distress contagion.

Chiesa and Seretti (2009) completed a review and meta-analysis examining meditation (MBSR) for stress management in healthy people. They selected 10 studies which met their criteria (all had control groups) from over 150 articles. They found that MBSR showed a nonspecific effect on stress reduction in comparison to inactive controls, both in reducing stress and in enhancing spirituality values, and a possible specific effect compared to an intervention designed to be structurally equivalent to the meditation program. They found that while MBSR and standard relaxation training were equally able to reduce stress, MBSR was also able to reduce ruminative thinking and trait anxiety, and to increase empathy and self-compassion. These authors caution, however, that despite their efforts to select the soundest studies, many of them were of relatively low quality.

Slagter et al. (2007) completed a longitudinal study with a control group of persons participating in a long-term (3-month) mindfulness meditation retreat to explore whether intensive meditation can alter the distribution of attentional resources, as

measured by performance in an attentional-blink task and by scalp-recorded brain potentials. They found that long-term mindfulness meditation practitioners showed more flexibility and accuracy on the attentional tasks, suggesting increased control over the distribution of attentional resources.

Concerned about levels of personal and professional distress among primary care physicians (and consequently reduced numbers of medical students choosing to go into primary care, and high attrition rates among those who do), Krasner et al. (2009) designed an intervention program aimed at primary care physicians in New England. Citing prior evidence that the capacity of “being present” was associated with a stronger sense of finding meaning in one’s work, they designed an intervention program consisting of mindfulness meditation as well as brief didactic presentations and writing exercises/ discussions using methods from narrative medicine and appreciative inquiry. They advertised a CME course, and accepted 70 self-selected participants, who participated in a course consisting of an 8- week course (one 2 ½ hr session per week) and a 10 month follow up (one 2 ½ hr session per month). Measures for mindfulness, burnout, empathy, psychosocial orientation, personality and mood were taken at 5 points and evaluated for both short and long-term change. The authors had hypothesized that by training participants in attention, awareness, and communication skills, psychological distress and burnout would be lowered, and physician well-being, empathy, and patient-centered orientation to care would be increased. All hypotheses were supported by the results (up to and including the final follow up at 3 months post-treatment). Mindfulness was correlated with greater resilience, increased perspective-taking, reduced mood disturbance, and reductions in burnout. The authors suggest that this program model “may help provide growth and sustenance to physicians in the service of promoting

excellence in clinical care and professional satisfaction and well-being” (Krasner et al, 2009, p. 1291).

A recently published prospective study (Jha, Stanley, Kiyonaga, Wond, & Gelfand, 2010) explored the use of mindfulness as a prophylactic intervention for troops heading into combat situations. During the stressful pre-deployment period, a military cohort (N = 31) received an 8-week mindfulness training program (which included personal mindfulness practice), while a military control group, also in pre-deployment status (n = 17) did not. A civilian control group, (n=12), was used for comparisons. All groups completed pre and post working memory tasks and the Positive and Negative Affect Scale (PANAS). Working memory remained stable in the civilian control group, and degraded (and negative affect increased) in the military control group. In the intervention group, working memory increased and negative affect decreased for those participants with higher mindfulness practice time, but decreased with those with lower practice time. Findings indicated that “sufficient MT [mindfulness training] may protect against functional impairments associated with high-stress contexts” (p. 54).

Finally, studies are beginning to emerge which show direct effects of clinician mindfulness on client outcome. In one randomized controlled trial (n = 18) examining the course of 124 psychiatric inpatients in Germany, patients of psychotherapy interns who had received mindfulness training had better outcomes than those of interns without training as measured by the Session Questionnaire for General and Differential Individual Psychotherapy (STEP) and the Questionnaire of Changes in Experience and Behavior (VEV) and the Symptom Checklist (SCL-90-R) (Grepmaier, Mitterlehner, Loew, Bachler, et al., 2007). Grepmaier, Mitterlehner, Loew & Nickel (2007) reported a similar study in which process and outcome measures were taken for a group of 58 psychiatric inpatients

treated by non-meditating therapists, and then for a similar group of 56 inpatients after these same therapists had received meditation training. Process ratings and symptom change were assessed for both groups at discharge, with results showing significant differences in a positive direction for those patients treated after their therapists had received meditation training.

Summary. While mindfulness is a teachable skill, with benefits that increase with longer practice, it is important to note that there is variance on measures of mindfulness even among the non-clinical (and non-meditating) population (Baer et al., 2006; Brown & Ryan, 2003). Like anxiety, there exists both “trait” mindfulness and “state” mindfulness (Chambers et al., 2009; Brown & Ryan, 2003). It is an attribute that varies in the general population, both between persons and within the individual over time. Both dispositional and state mindfulness, however, seem to predict self-regulated behavior and positive emotional states (Brown & Ryan, 2003). Thus, research which clarifies whether mindfulness is significantly related to compassion fatigue, burnout and compassion satisfaction may have implications for the effectiveness and well-being of social workers and other helpers.

In brief, then, this research is an attempt to understand and explicate relationships between certain intrapsychic variables (including mindfulness, empathy, and the capacity to maintain a separate self when dealing with painful client material) and compassion fatigue, burnout, and compassion satisfaction. It is known that trauma, including secondary trauma, can result in faulty cognitive processing, with attentional biases and maladaptive coping strategies such as avoidance and rumination. Rapidly expanding research on mindfulness suggests affects on attention, emotional reactivity and regulation, flexibility, and experiential avoidance and ruminative behavior, all of which

may influence a clinician's capacity to retain objectivity, response flexibility, and equanimity in the face of stress. Empirical studies at both the cognitive and neurological levels of investigation support this theoretical argument.

This study focuses on identifying and clarifying the relationship between aspects of professional quality of life and mindfulness, emotional separation, and empathy.

Specifically, the study seeks to illuminate factors that contribute to variation in levels of compassion fatigue, burnout, and compassion satisfaction experienced by social workers engaged in clinical practice

Table 1

Mindfulness: Genomic and Neurobiological Findings

Authors/ yr.	N	Type participant	Intervention	Design	Outcome measures	Findings	Comments
Dusek et al. (2009)	39	Volunteers with and w/o meditation experience	For prospective study, MBSR	Cross-sect. and prospective, pre-post	Microarray genetic analysis	Sig. differences in gene expression between meditators and non-med in cross-sectional study; Sig. changes (in predicted directions) in prospective pre-post	
Creswell et al. (2007)	27	Right-handed undergraduate students	----	Cross-sect.	MRI while completing affect-labeling task, MAAS, Spielberger Trait Anxiety inv.; BDI, BSI, Self-consciousness scale	Dispositional mindfulness assoc. w/ greater PFC activation reduced bi-lateral amygdale activity, and strong neg. associations between areas of PFC and R amygdale in participants high in dis. Mindfulness, but not those low.	
Luders et al. (2009)	44	Active meditators & matched controls	—	Cross-sect	MRI	Meditators had more grey matter in R PFC, R thalamus, R hippocampus, & L inferior temporal gyrus	
Vestergaard-Poulson (2009)	20	10 meditators, 10 matched	—	Cross-sect.	MRI	Increased grey matter in brainstem	may help explain the mechanisms by which meditation can induce increased resistance to stressful stimuli, increased attentional skills, and increased calmness. (Vestergaard-Poulson, 2009)

Table 2

Mindfulness: Findings Relevant to Clinical Training and Practice

Authors/ yr.	N	Type participant	Intervention	Design	Outcome measures	Findings	Comments
Moore and Malinowski (2009)	50	Experienced meditators and matched meditation-naïve controls	—	Cross-sect.	KIMS Stroop task D2-concentration and endurance test	significantly better performance on the attention measures among meditators	
Shapiro et al. (1998)	78	Medical and premed students	MBSR (8 wk)	Wait-list control group, randomized	Empathy Construct Rating Scale; Hopkins Symptoms checklist 90; Depression scale of SCL-90, State-Trait Anxiety Inventory' Index of Core Spiritual Experiences.	Lower depression and anxiety Increased spirituality Increased empathy	"...findings give strength to the hypothesis that mindfulness can be thought of as "preventive medicine" for future doctors..." (Shapiro et al, 1998, p. 597)
Beitel et al. (2005)	103	Undergraduate students	---	Cross-sectional, Survey	Psychological Mindedness Scale; MAAS, Self Consciousness Scale, IRI (Empathy)	Both mindfulness and psychological mindedness correlated positively w/ the PT and EC subscales of the IRI (empathy), and negatively w/ PD	
Galantino et al. (2005)	84	Hospital employees, admin. and patient care	Mindfulness Med. Training (based on MBSR) 8 wks), homework	Pre-post & follow up 8 wks (no control group)	Serum cortisol levels, POMS, MBI, IRI	Lowered emotional exhaustion, higher scores on POMS, no sig. difference on serum cortisol levels	"Promising, needs further research" Galantino et al. (2005)
Beddoe & Murphy (2004)	16	Nursing students	MBSR, 8 wks, homework	Pre-post, no control group) Convenience sample	IRI Derogatis Stress Profile	Sig. lowered anxiety; F & PD scales on IRI "trended down" and EC & PT "trended up", but differences not sig.	"Being mindful may also decrease tendencies to take on others' negative emotions." (Beddoe & Murphy, 2004, p.305).

Table 2 (continued)

Authors/ yr.	N	Type participant	Intervention	Design	Outcome measures	Findings	Comments
Mackenzie et al. (2006)	30	Nurses and nurses aids	Mindfulness intervention (4 wks)	Wait-list controlled trial	MBI, Smith Relaxation Dispositions Inventory, Orientation to Life Questionnaire, Intrinsic Job Satisfaction subscale from the Job Satisfaction Scale, Satisfaction with Life Scale	Experimental group receiving mindfulness program had sig. improvements in symptoms of burnout, and in relaxation and life satisfaction	
Arche & Craske (2006)	60	Undergrad students	Focused breathing exercise from MBSR	Randomized control	Heart rate PANAS Affect Scale (Wolpe) M-C SCS	Reduced emotional reactivity Increased affect tolerance	
Rosenzweig et al. (2003)	140	2 nd year medical students	MBSR, homework	Non-random cohort-controlled, prospective	POMS	MBSR group sig. lowered mood disturbance; (disturbance increased in control group)	
Carmody et al. (2009)	309	MBSR participants (U. Mass Med Center)	MBSR, homework	Pre-post (no control grp)	FFMQ, EQ, SRS, Purpose in life subscale from SPWB, AAC, BSI	Mod. To large effect sizes for all variables in salutary directions.	Mod. To large effect sizes for all variables.
Brenner (2009)	10	Clinical social workers who meditate	—	Qualitative		Qual reports—increased awareness & capacity for understanding clients, and improved attentional focus and cognitive flexibility	
Dekeser et al. (2008)	359	113 graduate psychology students and 246 parents	---	Survey	KIMS; IRI; Scale for Interpersonal Behavior; Toronto Alexithymia Scale; Body Cathexis Scale.	KIMS subscale <i>observation</i> associated with greater empathic concern, while the <i>describing</i> , <i>acting with awareness</i> , and <i>non-judging</i> subscales correlated with better identification and description of feelings, less social anxiety, and less distress contagion.	

Table 2 (continued)

Authors/ yr.	N	Type participant	Intervention	Design	Outcome measures	Findings	Comments
Slagter et al (2007)	17	Long-term meditators and matched controls	3-month meditation retreat	Longitudinal Control group (non-random)	Attentional blink task Scalp recorded brain potentials	Increased flexibility and accuracy on attentional tasks	
Krasner et al (2009)	70	Primary care physicians	MBSR 8 wks, some additional education, plus monthly follow up session for 10 mo.	Longitudinal Multiple measures (5 points)	FFMQ MBI IRI Psychosocial orientation Personality & mood	Aspects of burnout decreased; empathy, physician well-being, and patient-centered orientation to care increased.	Mindfulness may promote greater resiliency, flexibility, and patient centeredness (Krasner, 2009)
Jha et al (2010)	48	Pre-deployment military cohorts	8 wk mindfulness training with personal meditation practice	Non-random Both military pre-deployment control group and civilian control group.	OSPAN working memory task PANAS	Mood and working memory degraded in Military CG, stayed level in civilian CG. In intervention group, greater practice time correlated with increased working memory and reduced negative mood.	Mindfulness training may protect against depletion of working memory with stress, and reduce negative affect. Jha et al (2010)
Grepmaier, Mitterlehner, Loew, Bachler, Rother & Nickel, (2007)	18	Psychotherapists in training (PiT) (Sweeden)	Meditation	Random assign., control group	Therapeutic course and treatment results of 124 inpatients treated by the 18 PiTs, using Psychotherapy Questionnaire and Symptom Checklist-90-R	Patients of experimental (meditating) grp had greater symptom reduction and higher evaluations on process questions.	
Grepmaier, Mitterlehner, Loew, & Nickel, (2007)	113	Psychiatric inpatients	Therapists received mindfulness training before treating second group.	Pre/ post (2 groups treated sequentially by same therapists pre & post meditation training.	Psychotherapy Questionnaire and Symptom Checklist-90-R	patients treated after therapists had received meditation training did better on process and outcome measures than patients treated before.	

Scale Abbreviations Used (Table 2):

- BDI: Beck Depression Inventory
- BSI: Brief Symptom Inventory
- EQ: Experiences Questionnaire (Fresco)
- FFMQ: Five Facet Mindfulness Questionnaire
- IRI: Interpersonal Reactivity Index (Empathy)
 - Subscales include: PT, perspective taking; F, fantasy; EC, emotional concern; PD, personal distress
- MAAS: Mindful Awareness and Attention Scale
- SPWB: Scales of Psychological Well-Being (Riffe)
- SRS: Self-Regulation Questionnaire
- MC-SCS Marlowe-Crowne Social Desirability Scale
- PANAS Positive and Negative Affect Scale
- OSPAN Working Memory Task

Chapter Three

Methodology

Sample description

This cross-sectional exploratory correlation study examined mindfulness, empathy, emotional separation, compassion fatigue, burnout, and compassion satisfaction in a random sample of licensed clinical social workers in Kentucky. The study used secondary data collected by this researcher in 2008, in a study which received approval from University of Kentucky Institutional Review Board. The single-point cross-sectional anonymous survey consisted of demographic information and four (established) scales, and was mailed to 400 LCSWs (licensed clinical social workers) randomly selected from the list of all (approximately 1600) LCSWs obtained from the Kentucky State Board of Social Work. In addition, recruitment letters, consent forms, and postage-paid return envelopes were included. One hundred thirty two usable surveys were returned with the original mailing, and a second mailing resulted in another 39, for a total of 171, a 42% response rate. All data were collected between March 8, 2008 and May 29, 2008.

Conceptual and operational definitions

Several of the variables in this study are complex, multifaceted concepts, and it must be acknowledged that within the professional literature, there are differences in how the terms are defined conceptually, and consequent differences in operational definitions and measurement instruments. While to some extent this has been addressed earlier in this dissertation, I would like to overtly acknowledge this again as I move forward to define the variables conceptually and operationally, and to discuss instrumentation. Our

understanding of the concepts *empathy* and *mindfulness*, especially, is continuing to evolve, and agreement on precise operational definitions of these terms, even for purposes of empirical investigation, is lacking. In this section of the proposal, I will define all of the variables conceptually and operationally, including the subscales of the empathy and mindfulness constructs, with the hope of contributing to more specific understanding of which processes may be related to the dependent variables. Sample items and ranges of possible scores are included in the “Measures” section of this dissertation (p. 89.)

Dependent variables.

Compassion fatigue. Researchers disagree regarding the degree of conceptual difference between the various terms (vicarious trauma, secondary traumatic stress, compassion fatigue) used to describe reactions to secondary exposure to the trauma of others (Figley, 2002b; Jenkins & Baird, 2002; Stamm, 2005, 2009; Wilson, 2004).

In this study, compassion fatigue is conceptually defined as symptoms (such as intrusive thoughts and images, avoidance of reminders of the stressor, and fearfulness) related to work-related, secondary exposure to extremely stressful events. This definition is consistent with Stamm’s (2005) and Figley’s (2002b) description of compassion fatigue as being conceptually similar to secondary traumatic stress, and as incorporating the vicarious trauma component.

Stamm cautions that the ProQOL measure is not intended to be used diagnostically, but rather viewed as a continuum of symptoms that represent risk. Consequently, this study is not attempting to specify whether the specific criteria for a diagnosis of PTSD, or even of compassion fatigue, are met. Even so, since secondary

stress is a major part of the compassion fatigue construct, and secondary stress is premised to occur around the same symptom criteria as primary PTSD (Figley, 2002b), there is a methodological limitation in this study that should be acknowledged regarding criterion A of the DSM IV R diagnostic criteria. The survey questionnaire did not contain questions specifically inquiring about trauma exposure.

Weathers and Kean (2007a; 2007b) argue for the need to maintain a clear criterion of evidence of the occurrence of a traumatic event in order to diagnose PTSD, and remind readers that even if DSM IV-R criteria B-F are met, when the traumatic event is not of sufficient severity to meet criterion A, the correct diagnosis is Adjustment Disorder and not PTSD. Maier (2007) argues that the experience of trauma is an individual phenomenological event, and that the DSM is designed to “phenomenologically assess clusters of symptoms to identify underlying pathological entities” and “define clinical entities such as PTSD by valid and reliable phenomenological criteria to potentially clarify their neurobiological nature” (p. 915). Maier suggests that criterion A could (and perhaps should) be eliminated from the diagnostic criteria “without loss of diagnostic accuracy” (p. 916).

However, at this point criterion A is still in effect. In this sample, there was no measure of trauma exposure, and consequently the results should be interpreted, as Stamm suggests, to measure symptomatically along a continuum with no attempt to diagnostic claims.

Compassion fatigue will be operationally defined in this study as the overall score on the 10- item Compassion Fatigue subscale of the Professional Quality of Life Scale (ProQOL).

Burnout. Maslach (1976) described burnout as a work-related syndrome characterized by emotional exhaustion, depersonalization, and a sense of reduced personal accomplishment, and Figley (1995b) talked about the helper's sense of having insufficient capacity or resources to be able to effectively help as being predictive of burnout. In this study, burnout is conceptually defined as those symptoms, including feelings of hopelessness, that are related to difficulties in dealing with work or managing one's job as a helper effectively (Stamm, 2005). Burnout is operationalized as the total score on the 10 item Burnout subscale of the ProQOL.

Compassion satisfaction. Many helping professionals experience feelings of fulfillment and positive affect from the experience of helping, and it is important that these positive effects of the work be recognized as meaningful and potentially sustaining (Radey & Figley, 2007). Compassion Satisfaction, in this study, is conceptually defined as positive feelings derived from doing helping work effectively. Operationally, compassion satisfaction is defined as the total score on the 10 item Compassion Satisfaction subscale of the ProQOL.

Independent variables.

Mindfulness. As mentioned previously, this study is examining dispositional or trait mindfulness. (*Traits* refer to relatively enduring qualities of the person, as opposed to more temporary, transient *states*.) Consistent with both Kabot-Zinn (1994) and Baer et al. (2004), mindfulness is conceptually defined as “focusing one's attention in a nonjudgmental or accepting way on the experience occurring in the present moment” (Baer, 2004, p.191). This definition incorporates the qualities of present-focused attention and non-judgmental acceptance mentioned in the earlier discussion of the

mindfulness construct. Mindfulness is operationally defined as the total score on the *Five Facet Mindfulness Questionnaire*, Baer et al., 2006).

Subscale scores will also be used in this analysis, and consequently will be defined here as well (Baer et al., 2006).

1. *Nonreactivity to inner experience* (nonreact) is conceptually defined as the ability to perceive feelings and emotions without reacting to them.
2. *Observing/ noticing/ attending* (observe) is conceptually defined as the ability to pay attention to experiences, sensations, perceptions, thoughts and feelings occurring in the moment.
3. *Acting with awareness* (actaware) is conceptually defined as the ability to concentrate, not become preoccupied or distracted, not operate as if on “automatic pilot”.
4. *Describing or labeling with words* (describe) is conceptually defined as the ability to express internal experiences (beliefs, opinions, perceptions and feelings) with words.
5. *Nonjudging of experience* (nonjudge) is conceptually defined as the ability to experience what is occurring in the moment without criticizing or making judgments about one’s own feelings, thoughts or perceptions.

Each of the five mindfulness subscales is operationally defined as the total score on the particular subscale of the Five Facet Mindfulness Questionnaire.

Empathy constructs: Empathic concern, perspective taking, fantasy, and personal distress. Like mindfulness, empathy is a multifactoral construct and seems to involve a number of different processes. Based on the conceptual understanding of

empathy as involving both an affective perception of the internal states of others, and a cognitive component which allows initial information to be appraised in light of historical and contextual information, this study will conceptually define empathy as both cognitive and affective reactions of one individual to the experiences of another (Davis, 1983). However, there is no summed measurement of an overall empathy construct, but rather an examination of particular subscales of empathy (constrained by the choice of measurement instrument).

As intended by Davis (personal communication, April 2, 2010), the individual aspects of empathy are measured separately, and consequently need to be defined separately. Conceptual definitions of the subcomponents of empathy used in this study follow:

1. *Empathic concern* is defined as “other oriented feelings of sympathy and concern for unfortunate others” (Davis, 1983, p. 114)
2. *Perspective taking* is defined as “the tendency to spontaneously adopt the psychological point of view of others” (p. 113).
3. *Fantasy* is defined as “tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters in books, movies, and plays” (p. 114).
4. *Personal distress*, defined as, “self-oriented feelings of personal anxiety and unease in tense interpersonal settings” (p. 114).

Each of the four empathy subscales is operationally defined as the total score on the particular subscale of the IRI (Davis, 1983).

Emotional separation. Emotional separation is conceptually defined as “emotional self-other differentiation between a respondent and an other” (Corcoran, 1982, p. 67), and refers to the capacity of social workers or other helpers to remain differentiated from the persons they are attempting to help. Emotional separation is operationally defined as the total score on the Maintenance of Emotional Separation (MES) scale.

Individual factors. Age, years of experience and gender are self explanatory, and are included as controls.

Unlike these relatively concrete control variables, the variables representing prior trauma history require comment. The presence of prior trauma has been considered a factor in predicting burnout and secondary traumatic stress/ compassion fatigue (Saakvitne et al, 1998) and chronic trauma in childhood is predictive of the development of complex trauma (Cook, Blaustein, Spinazzolia & van der Kolk, 2003). Because of issues discussed previously (regarding the reactivation of memory networks related to prior trauma), the differentiation of primary traumatic stress and secondary traumatic stress may be difficult, even with validated measurement instruments. In this study, however, the adult trauma history and child trauma history variables are simple one-item questions asking if there was a history of trauma in childhood or a history of trauma in adulthood. The items are conceptually defined, then, as the perception by participants of having experienced trauma in childhood, or in adulthood, and are operationally defined as the participant’s response to these two single-item questions.

In addition, the work setting variable consisted of a single question, “What is your work setting?” with 6 options: government social service agency; community mental

health agency; hospital/ medical facility; residential mental health/ substance abuse facility; private practice; and other. As included in the original questionnaire, these categories were not mutually exclusive and consequently this variable was not included in the primary bivariate and multivariate analysis. However, the variable was later re-entered from the original questionnaires in mutually exclusive categories (the above 6 categories and a “two jobs” category for persons listing more than one job. The new variable was used in subsequent analysis of variance tests to determine whether there was variance on scores of compassion fatigue, burnout, or compassion satisfaction based on workplace setting.

Measures

Measurement of dependent, independent, and control variables will be discussed in the sections that follow, and information for each of the scales and subscales used is displayed in Table 3, below.

Dependent variables.

Professional quality of life: Compassion fatigue, burnout, and compassion satisfaction. The Professional Quality of Life scale (ProQOL) is a 30-item self-report measure with three, distinct 10-item scales measuring compassion fatigue (CF), compassion satisfaction (CS), and risk of burnout (B). Originally developed by Figley (1995b) as the Compassion Fatigue Self-Test, this measure went through several revisions in collaboration with Stamm, who shortened the measure and added the concept of compassion satisfaction (SAMHSA, 2006). The ProQOL R-IV, used in this study, improves on the psychometric problems in earlier versions, including collinearity between compassion fatigue and burnout (Stamm, 2005). Constructed by retaining the

strongest items from multiple studies using previous versions of the test, construct validity is supported by more than 200 peer-reviewed articles (Stamm 2005). Alpha coefficients for compassion satisfaction, burnout, and compassion fatigue are, respectively, .87, .72, and .80 (Stamm, 2005). The measure has been translated to multiple languages and used in various countries and populations, with similar reliability statistics (Musa & Hamid, 2008; SAMHSA, 2006), and is one of the measures used by the National Child Traumatic Stress Network (SAMHSA, 2006). Response options for each of the thirty items range from 0 (*never*) to 5 (*very often*).

Compassion fatigue is defined as symptoms (such as intrusive thoughts and images, avoidance of reminders of the stressor, and fearfulness) related to work-related, secondary exposure to extremely stressful events. In the ProQOL, the concept was measured with items such as “I am preoccupied with more than one person I help,” “I avoid certain activities or situations because they remind me of the frightening experiences of the people I help,” and “As a result of my helping, I have intrusive, frightening thoughts.” The range of possible scores for compassion fatigue is 0-50.

Burnout is defined as those symptoms, including feelings of hopelessness, that are related to difficulties in dealing with work or managing one’s job effectively. In the ProQOL, the construct is examined with such questions as “Because of my work as a helper, I feel exhausted,” “I feel ‘bogged down’ by the system,” and “I feel connected to others.” Possible scores for the compassion fatigue subscale range from 0-50.

And finally, Compassion Satisfaction is defined as positive feelings derived from doing helping work effectively (Stamm, 2005). Questions such as “I believe I can make a difference through my work,” “I get satisfaction from being able to help people,” and “I

feel invigorated after working with those I help” (Stamm, 2005) explore this sense of accomplishment and positive affect. Possible scores range from 0-50.

Independent variables.

Mindfulness. In this study, mindfulness was defined as “focusing one’s attention in a nonjudgmental or accepting way on the experience occurring in the present moment” (Baer et al., 2004, p.191). Baer et al. (2006) reviewed the existing literature and completed a factorial analysis of a combined dataset consisting of all items from five existing mindfulness scales. This analysis differentiated five distinct factors of the mindfulness construct which the authors included in the 39-item *5-Facet Mindfulness Questionnaire*. Baer et al. (2008) suggest that it is important that researchers be able to investigate particular facets of mindfulness in order to refine the understanding of how specific skills relate to psychological adjustment, but their analysis also provides support for mindfulness as a combined, overarching construct. While individual subscale scores have been used in most research studies, the total combined score has also been used (Caldwell, Harrison, Adams, Quin, & Greeson, 2010; Carmody, Baer, Lykins, & Olendzki, 2009; Evans, Baer, & Sagerstrom, 2009). Baer et al. (2006, 2008) report reasonable construct validity, with alpha coefficients ranging from .72 to .92, and predictive validity with mindfulness facets correlated significantly with other related constructs. Response options ran from 1 (*never or very rarely true*) to 5 (*very often or always true*).

The five facets of mindfulness described in the subscales include: nonreactivity to inner experience (probed by statements such as “When I have distressing thoughts or images, I just notice them and let them go”); observing/ noticing/ attending (“I pay

attention to sounds, such as clocks ticking, birds chirping, or cars passing”); acting with awareness (“I am easily distracted”); describing/ labeling with words (“I am good at finding words to describe my feelings”); and nonjudging of experience (“ I think some of my emotions are bad or inappropriate and I shouldn’t feel them).

In this study, the total mindfulness score was used to measure the overarching mindfulness construct, with possible scores ranging from 39-195. In addition, the mindfulness subscale scores were used to help clarify and explicate findings. Possible scores for the *nonreact* subscale are 7-35. For each of the other four subscales, possible scores are 8-40.

Empathy subscales. While some previous measures of empathy emphasized either an affective or a cognitive description of empathy, Davis argued for a multidimensional view which incorporated both cognitive and affective aspects (Davis, 1983). In this study, empathy is conceptually defined as both cognitive and affective reactions of one individual to the experiences of another (Davis, 1983). Davis’s Interpersonal Reactivity Index (IRI) was used to assess empathy. The IRI consists of four, distinct seven-item scales measuring different components of dispositional empathy, including empathic concern (EC), perspective taking (PT), fantasy (F), and personal distress (PD). The scales are not intended to be used cumulatively (M. Davis, personal communication, April 2, 2010). Response options in the survey instrument range from 0 (*does not describe me well*) to 4 (*does describe me well*). The range of scores for each subscale is 0-28. Davis (1983) conducted validation studies which showed subscale correlations in expected directions with conceptually related measures of emotional and social functioning, as well as other measures of cognitive or affective empathy. Internal

consistency of the four subscales was at acceptable levels, with Cronbach's alphas ranging from .71 to .77, and test-retest reliability ranging from .61 to .71 (Davis, 1983). Pulos, Elison, & Lennon (2004) report slightly higher reliability statistics (alphas .75 to .82) than those reported by Davis. Swedish (Cliffordson, 2002) and Chinese (Siu & Shek, 2006) versions of the test showed similar psychometrics (alphas of .71 to .80 and .65 to .70, respectively).

Empathic concern, defined as "other oriented feelings of sympathy and concern for unfortunate others" (Davis, 1983, p. 114), was explored with items such as "I often have tender, concerned feelings for people less fortunate than me." Perspective taking, "the tendency to spontaneously adopt the psychological point of view of others" (p. 113) included items such as "Before criticizing somebody, I try to imagine how I would feel if I were in their place." Fantasy, "tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters in books, movies, and plays" (p. 114) consisted of statements such as "When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me." Finally, the personal distress subscale, measuring, "self-oriented feelings of personal anxiety and unease in tense interpersonal settings" (p. 114) included items such as "Being in a tense emotional situation scares me."

Emotional separation. Emotional separation was defined as "emotional self-other differentiation between a respondent and an other" (Corcoran, 1982, p. 67). The Maintenance of Emotional Separation (MES) Scale, a one-dimensional, 7-item scale measuring self-other differentiation, was used to measure emotional separation. The scale has acceptable internal reliability, with Cronbach's alpha = .71 (Corcoran 1982, 1983).

Convergent and discriminatory validity was established by comparing MES scores with measures of empathy and social desirability (Corcoran, 1982). The scale has been used in other studies (Badger et al, 2008; Lang-Takac & Osterweil, 1992), though this concept has received relatively little examination in the literature.

Responses ranged from 1 (*completely false for me*) to 6 (*completely true for me*), and included items such as “Sometimes I get so involved in other people’s feelings, I seem to lose sight of myself for awhile” and “When I talk with a depressed person, I feel sad myself for quite some time after the conversation.” The range of possible scores was 7-42.

Individual factors. As previously noted, past research has reported mixed findings concerning the relationship between aspects of professional quality of life and practitioner characteristics such as gender, age, years of practice experience, and past trauma history. For example, Bride’s 2004 meta-analysis found mixed results for gender effects with secondary trauma, while Sprang et al. (2007) found positive correlations between gender and compassion fatigue. These inconsistencies support the relevance of including such factors in the current study as well. In this study, several individual factors will be included as controls. They are:

1. Age (in years) was measured as a continuous variable.
2. Years of experience in social work, continuous variable.
3. Gender is a dichotomous variable, dummy coded (female = 1)
4. Child trauma history is a one item question, “do you have a history of trauma in childhood?” with response options of none, mild, moderate, or severe.

5. Adult trauma history is a one item question, “do you have a history of trauma as an adult?” with response options of none, mild, moderate, or severe.

Work setting. In addition, as mentioned on p. 83, work setting was not used in the bivariate and multivariate analyses, but was later used in analysis of variance tests. The original variable had six response options, including: government social service agency, community mental health agency, hospital/medical facility, residential mental health/ substance abuse facility, private practice, or other. The original variable allowed respondents to list more than one category; consequently the categories were not mutually exclusive. Subsequently, the variable was reentered from the original surveys into a nominal variable with mutually exclusive categories (the above 6 categories and a “two jobs” category for persons listing more than one employment category). The new variable was used in subsequent analysis of variance tests to determine whether there was variance on scores of compassion fatigue, burnout, or compassion satisfaction based on workplace setting.

Table 3
Measures Used in Study

MEASURE	# ITEMS	SCALE	RANGE OF SCORES	REPORTED ALPHAS	COMMENTS
Professional Quality of Life Scale (3 rd) (ProQOL)					No combined score
Compassion Fatigue	10	0-5	0-50	.80	
Burnout	10	0-5	0-50	.72	
Compassion Satisfaction	10	0-5	0-50	.87	
5-Facet Mindfulness Questionnaire (FFMQ)	39	1-5	39-195		No alpha reported for total score
Nonreact	7	1-5	7-35	.75	
Observe	8	1-5	8-40	.83	
ActAware	8	1-5	8-40	.87	
Describe	8	1-5	8-40	.91	
Nonjudge	8	1-5	8-40	.87	
Interpersonal Reactivity Index (IRI)					No combined score
Empathic Concern (EC)	7	0-4	0-28	.71-.77	
Perspective Taking (PT)	7	0-4	0-28	.71-.77	
Fantasy (F)	7	0-4	0-28	.71-.77	
Personal Distress (PD)	7	0-4	0-28	.71-.77	
Emotional Separation	7	1-6	7-42	.71	

Research Questions

The following five research questions were examined in this study. The first three examined the model of independent variables and controls as predictors of each of the three dependent variables (compassion fatigue, burnout, and compassion satisfaction). The last two questions explored more complex relationships, and asked whether certain variables may have a mediated, indirect relationship with the dependent variables.

Q1 Will the model of mindfulness, empathy, and emotional separation significantly predict scores on compassion fatigue? Controlling for several individual factors (age, female gender, years work experience, past history of trauma in adulthood, and past history of trauma in childhood), which of the independent variables will be most closely associated with lower levels of compassion fatigue?

Q2 Will the model of mindfulness, empathy, and emotional separation significantly predict burnout scores? Controlling for several individual factors (age, female gender, years work experience, past history of trauma in adulthood, and past history of trauma in childhood), which of the independent variables will be most closely associated with lower levels of burnout?

Q3 Will the model of mindfulness, empathy, and emotional separation significantly predict compassion satisfaction scores? Controlling for several individual factors (age, female gender, years work experience, past history of trauma in adulthood, and past history of trauma in childhood), which of the independent variables will be most closely associated with lower levels of compassion satisfaction?

Q4 What are the relationships of relevant empathy subscales (*empathic concern, perspective taking, fantasy, and personal distress*) with mindfulness and

emotional separation? Do mindfulness and emotional separation mediate relationships between empathy subscales and dependent variables?

Q5 What is the relationship between *emotional separation* and *mindfulness*?

Does emotional separation mediate the relationship between mindfulness and the dependent variables?

Approach to Data Analysis

The data were analyzed using univariate, bivariate, and multivariate procedures. Descriptive statistics, including frequency distribution and examination of numerical and graphic representations were used to examine the data. Correlation analysis was used to examine relationships between dependent and independent variables, and among the major independent variables. Data were screened to insure that assumptions were met or issues remedied before proceeding with multivariate analysis. Simultaneous-entry ordinary least squares (OLS) regression was used in this exploratory study to examine whether there were significant relationships between variables, and hierarchical regression was used to further explicate the relationships. In addition, Sobel tests for mediation were used to explore indirect effects, and analysis of variance (ANOVA) tests were used to examine differences related to particular ordinal and categorical variables.

Summary

Previous studies of compassion fatigue and burnout have provided important information about professional and workplace variables that might influence risk for compassion fatigue and burnout, but little attention has been given to understanding whether there are *intrapersonal* skills/abilities which might reduce risk, and/or increase resilience and work satisfaction among helping professionals. The purpose of this

exploratory study was to discover whether there were relationships between certain intrapsychic variables including mindfulness, empathy and emotional separation with aspects of professional quality of life including compassion fatigue, burnout, and compassion satisfaction. Cross-sectional survey data from a random sample of licensed clinical social workers in Kentucky were used in the study. The data were screened and analyzed with descriptive, bivariate and multivariate analyses. Detailed results of the analyses are presented in Chapter 4.

Chapter 4

Results

As described in earlier chapters, much of the research that has been completed regarding burnout and compassion fatigue (in this chapter I will use the term compassion fatigue to refer to secondary stress disorders) has focused either on demographic variables such as gender or age, or on workplace variables such as caseload and supervision. This study, instead, examined intrapsychic variables which might have the potential to influence professional quality of life.

Data analysis for this study focused on examining the relationships between mindfulness, empathy, and emotional separation in relation to compassion fatigue, burnout, and compassion satisfaction among a random sample of clinical social workers in Kentucky. In addition, relationships between the three independent variables were explored. Several variables which have been previously cited in the literature as affecting aspects of professional quality of life, although not the focus of this dissertation, were included as controls. These control variables included age, gender, years work experience, child trauma history, and adult trauma history.

This chapter will include information on descriptive, bivariate, and multivariate analyses conducted, and will detail the exploration and explication of the research questions addressed in Chapter 3.

Descriptive Analyses: Sample

At the time this study data were collected, there were 1626 licensed clinical social workers (LCSWs) in Kentucky. Social work licensure in Kentucky consists of three levels. Bachelor level social workers, upon graduation with an undergraduate social

work degree from a Council on Social Work Education (CSWE) accredited college, can sit for the “licensed social worker” exam. Persons who have received an MSW from a CSWE accredited program and passed a certification exam may receive a “certified social worker” license. The third level of licensure is the clinical social work license (LCSW), which licenses practitioners for the practice of clinical social work, including independent practice. Persons seeking clinical licensure must meet all the requirements for (and have received) the “certified social worker” license, and in addition must have a minimum of two years full-time supervised post-masters experience specifically in a clinical practice setting, and at least 200 hours of direct clinical supervision with an experienced LCSW supervisor before sitting for the clinical licensure exam.

The study used secondary data collected by this researcher in 2008 in a study which received approval from University of Kentucky Institutional Review Board. The Kentucky Board of Social Work provided the list of all LCSWs in Kentucky, and a random sample of 400 was selected from this list. Recruitment letters, informed consent forms, and postage-paid return envelopes were included. One hundred thirty two usable surveys were returned with the original mailing, and a second mailing resulted in another 39, for a total of 171, a 42% response rate. All data were collected between March 8, 2008 and May 29, 2008. While this response rate is not ideal, similar studies report response rates within a comparable range. (For example, a cross-sectional survey study by Craig and Sprang (2010), had a response rate of 27.1%).

The final sample consisted of 171 Licensed Clinical Social Workers ranging from 31 to 80 years of age ($M = 50.34$, $SD = 10.85$). Over 81% were female ($n = 139$), with an average of 21.26 years of social work experience ($SD = 10.12$, min/max = 5 – 53 years).

These statistics are similar to recent NASW demographics showing that the median age of NASW members was 50, 79% were female, and the average of years practice experience was 16 (National Association of Social Workers, 2003). Almost 85% (n = 145) reported that they had worked the longest in mental health/substance abuse counseling, with 39.8% (n = 68) currently working full or part time in private practice, 23% (n = 40) in hospital/medical settings, and 24% (n = 41) in community mental health. Approximately 55% (n = 91) reported some childhood trauma history, with fewer respondents (43%, n = 71) indicating that they had experienced some type of trauma in adulthood.

Study Variable Descriptives

This section will describe the primary dependent and independent variables as well as control variables used in the study. For all variables, frequency tables were examined for missing data, entry errors and outliers. Missing data were not a problem in this study sample. Histograms, normal Q-Q plots, scattergrams and boxplots were also examined to determine distribution and outliers. There were no extreme outliers, and examination of the individual outliers indicated valid responses. The decision was made to retain the outliers with no need for transformation. (Additional tests for influence of outliers in multivariate analyses will be discussed on p. 109-110.)

All study variables were found to be adequately homoscedastic and linear. For each variable, the mean, standard deviation (or percentages for nominal variables), range of scores, and results of skewness and kurtosis tests for normality of distribution are presented in Table 5 (dependent variables); Table 8 (key independent variables); and Table 13 (control variables) below. In addition, psychometrics for all scales used in the

study are included in Appendix E and detailed for dependent and independent variables in Tables 4, 7, 9, and 11, below.

Dependent variables.

The three dependent variables in the study, compassion fatigue, burnout, and compassion satisfaction, were assessed using the three subscales of the ProQOL R IV (Stamm, 2005). A recent study (Craig & Sprang, 2010) found problematic factor loadings on the ProQOL III, an earlier version of the ProQOL questionnaire, with resulting analyses leading to a decision to alter the standard factor structure for that study. A confirmatory factor analysis was completed for this study sample. Reliability analyses were run for the scales of the ProQOL R-IV as designed, and with rotated scales (promax and varimax rotations). Reliability coefficients for the scales using items that loaded above .40 were examined. The exclusion of items that had loaded at < .40 on the rotated scales did not substantially improve the alphas for the scales. Given that reliability statistics for the ProQOL R IV subscales were acceptable (see Table 4 below) and given the exploratory nature of the study, the decision was made to retain the factor structure as recommended by Stamm (2005). Reliability analyses for internal consistency of the three ProQOL R IV subscales with this study sample resulted in Cronbach's alphas of .86 for Compassion Fatigue, .78 for Burnout, and .91 for Compassion Satisfaction (see Table 4 below).

Table 4

ProQOL R IV Subscale Psychometrics

Scale	No. of items	Range of scores	Alpha	Mean	SD
ProQOL (Professional Quality of Life)					
Compassion Fatigue	10	0–50	.86	11.67	7.10
Burnout	10	0–50	.78	18.80	6.56
Compassion Satisfaction	10	0–50	.91	39.46	6.69

The study sample for Compassion Fatigue had a range of scores from 0-37, with higher scores indicating greater levels of distress. The mean score for compassion fatigue was 11.67 (*SD* 7.10). (See Table 5 for descriptive statistics on all dependent variables.) There were three outliers in the data, with scores of 34, 36, and 37. While these outliers were slightly beyond 3 standard deviations (but less than 4), examination of the data indicated that the responses were valid and the decision was made that the scores should be retained. (In subsequent multivariate analyses, the data were examined both with outliers retained and with outliers deleted, with almost no difference in results.)

The range of scores for the Burnout scale was 5 to 35, with a mean of 18.80 (*SD* 6.56), with no outliers. The Compassion Satisfaction scale had a range of 16-50, with a mean of 39.46 (*SD* 6.70). There were two outliers (scores of 16 and 19). None of the outliers were extreme. Again, examination of the data indicated valid responses and the items were retained.

Responses on all three scales showed sufficiently normal distributions, with skewness and kurtosis scores within reasonable limits (see Table 5, below.)

Table 5

Descriptive Statistics for Dependent Variables

Variable	N	Mean	SD	Range	Skewness	Kurtosis
Compassion Fatigue	169	11.67	7.10	0-37	1.076	1.356
Burnout	169	18.80	6.56	5-35	.214	-.434
Compassion Satisfaction	160	39.46	6.69	16-50	-.740	.667

Comparisons with national norms. This sample scored slightly better on the compassion fatigue subtest ($M = 11.67$, $SD = 7.10$) than the national mean of 13 ($SD = 6.00$) reported by Stamm (2005), as shown in Table 6, below. The sample scores for

burnout ($M = 18.80$) were substantially better than the national mean of 23 ($SD = 6.00$), possibly reflecting the high proportion of private practitioners in the study (who presumably suffer less from some of the institutional factors measured in the burnout scale, such as “feeling bogged down by the system” and “overwhelmed by the size of my caseload”). Mean scores for compassion satisfaction, 39.46 ($SD = 6.69$), were slightly higher than the national norm of 37 ($SD = 7.00$), indicating higher potential for experiencing compassion satisfaction among the sample population.

Table 6

Study Sample ProQOL R IV Mean Scores compared with National Norms

	Sample Mean	Sample Std. Dev.	Sample alpha	National mean *	National std. dev.*	National alpha*
Compassion						
Fatigue	11.68	7.096	.91	13.00	6.00	.80
Burnout	18.80	6.56	.78	23.00	6.00	.72
Compassion						
Satisfaction	39.46	6.70	.86	37.00	7.00	.87

* Norms for national sample for ProQOL R IV (Stamm, 2005)

Cut-scores. Stamm (2005) recommends using the ProQOL as a continuous measure, and cautions that the test is not intended to be used for diagnostic purposes. However, she does offer cut-points which can be used to signal concerning levels of compassion fatigue, burnout and compassion satisfaction (Stamm, 2005). Stamm suggested that those persons scoring in the range of the highest quartile for compassion fatigue and burnout, and the lowest quartile for compassion satisfaction in the national sample be considered to have scores that signal concern. This translated into a cut score for burnout of 27. Only 11 % ($n = 25$) of this study sample scored within the range of scores considered concerning, as compared with 25% in the national sample. For compassion fatigue, 17 % ($n = 33$) of this sample scored within the range considered of concern, (again, compared with 25% of the national sample). For compassion

satisfaction, only 16% ($n = 28$) scored within the nationally normed lower quartile, indicating fewer people experiencing very low levels of compassion satisfaction among this sample than among the national normed sample (Stamm, 2005).

Independent variables.

Empathy. As discussed previously, the measure of empathy used in this study, the Interpersonal Reactivity Index (Davis, 1983) includes four subscales measuring differing aspects of the empathy construct, including both cognitive and affective facets of dispositional empathy. Reliability statistics for each of the empathy subscales for this study (see Table 7, below) are as follows: perspective taking, $\alpha = .75$; fantasy, $\alpha = .77$; empathic concern, $\alpha = .67$; and personal distress, $\alpha = .75$. These scores are within the range described by Davis (1983) and by Pulos, Ellison and Lennon (2004).

Table 7

Empathy Subscale Psychometrics

Scale	No. of items	Range of scores	Alpha	Mean	SD
Interpersonal Reactivity Index—Empathy					
Empathetic Concern	7	0–28	.67	20.13	3.76
Perspective Taking	7	0–28	.75	19.39	3.86
Fantasy	7	0–28	.77	12.87	5.20
Personal Distress	7	0–28	.75	7.44	4.30

None of the empathy subscales showed problematic skew or kurtosis statistics, indicating sufficiently normal distributions. Mean scores, standard deviations, range of responses, and skew and kurtosis statistics are included in Table 8, below.

Table 8

Descriptive Statistics for Independent Variables

Variable	N	Mean	SD	Range	Skewness	Kurtosis
Perspective taking	170	19.39	3.86	6-28	-.414	.577
Fantasy	171	12.87	5.20	5-28	.114	-.465
Empathic Concern	171	20.13	3.76	5-28	-.539	.662
Personal Distress	171	7.44	4.30	0-20	.472	-.115

Mindfulness. The 5-facet Mindfulness Questionnaire (FFMQ) has 5 subscales measuring different aspects of the mindfulness construct, but as discussed in Chapter 3, the summed score is used to capture the overall mindfulness construct. The overall scale score will be used to address the research questions, but the individual subscales will also be examined (p.139-140) in an attempt to explicate possible mechanisms of action. Consequently, reliability analyses were completed for each of the subscales as well as the overall scale (see Table 9) to determine internal consistency. Cronbach's alphas are as follows: total mindfulness scale, alpha = .93; observe, alpha = .85; describe, alpha = .90; actaware, alpha = .92; nonjudge, alpha = .92; and nonreact, alpha = .75. These scores are similar to those reported by Baer and colleagues (Baer et al., 2006).

Table 9

FFMQ Mindfulness Scale and Subscale Psychometrics

Scale	No. of items	Range of scores	Alpha	Mean	SD
Five-Facet Mindfulness Scale	39	39-195	.93	144.80	18.35
Observe (Observing)	8	8-40	.85	26.69	5.47
Describe (Describing/ labeling)	8	8-40	.90	31.50	5.16
Actaware (Acting w/ awareness)	8	8-40	.92	29.33	6.02
Nonjudge (Nonjudging)	8	8-40	.92	32.27	6.04
Nonreact (Nonreactivity)	7	7-35	.75	25.21	3.72

None of the statistics for skewness or kurtosis were problematic for any of the scales, indicating reasonably normal distribution. The range of possible scores for the total scale was 39-195, and the range in this sample was 87-183. The mean score was 144.79 (*SD* (18.35)). Possible individual scale scores range from 8-40 for all scales but nonreact, where the possible range was 7-35. Means, standard deviations, range, skew and kurtosis statistics are included in Table 10, below.

Table 10

Descriptive Statistics for Mindfulness Scales and Subscales

Variable	N	Mean	SD	Range	Skewness	Kurtosis
Observe	171	26.69	5.47	11-40	-.203	.299
Describe	171	31.15	5.16	18-40	-.392	-.475
Actaware	171	29.33	6.02	10-40	-.488	.236
Nonjudge	169	25.07	6.04	10-40	-.758	.186
Nonreact	169	25.07	3.72	15-35	-.129	.034
Mindfulness (total score)	169	144.79	18.35	87-183	-.318	.105

Emotional separation. Emotional separation was measured by the Maintenance of Separation Scale (Corcoran, 1982). The MES is a seven item scale in which higher scores indicate greater ability to maintain emotional separation. Reliability analysis for the MES (see Table 11, below) resulted in an alpha of .76, which compares to Corcoran's report of alpha =.71 (1982; 1983).

Table 11

Emotional Separation Scale Psychometrics

Scale	No. of items	Range of scores	Alpha	Mean	<i>SD</i>
Emotional Separation	7	7-42	.76	34.22	4.47

The possible range of scores is 7-42, and in this sample the range was 20-42. Mean scores for this sample were 34.33 (*SD* 4.47), slightly higher than the mean

averages reported by Corcoran (1982) in the high-and low-empathy groups he examined, which were 29.70 to 33.04, respectively. Distribution was sufficiently normal.

Descriptive statistics are included in Table 12, below.

Table 12

Descriptive Statistics for Emotional Separation

Variable	N	Mean	SD	Range	Skewness	Kurtosis
Emotional	171	34.33	4.47	20-42	-.725	.277

Individual factors used as controls. Five control variables (age, gender, years work experience, child trauma history, and adult trauma history) were included in the regression models in this study, based on previous literature. Age ($M = 50.34$, $SD = 10.85$) and years social work experience ($M = 21.26$, $SD = 10.12$) had normal distributions, with skew and kurtosis statistics shown in Table 13, below. Of the 171 respondents, 140 (81.9%) were female, and 53.2 (n = 91) reported having had a history of childhood trauma. Only 41.5% (n = 71) endorsed having experienced trauma in adulthood.

Female gender was dummy-coded with 0 for male and 1 for female. The trauma variables in the original questionnaire were ordinal variables with a range of response options of none, mild, moderate, and severe trauma, but the variables were subsequently dummy-coded for use in the regression analysis with 0 = no trauma and 1 indicating the presence of some trauma history. The ordinal variables were retained, however, and were later used in an analysis of variance (ANOVA) to examine differences in trauma effects (see p. 140-143).

Table 13

Descriptive Statistics for Control Variables

Variable	N	Mean or % (n)	SD	Range	Skewness	Kurtosis
Age in years	171	50.34	10.85	31-80	.186	-.674
Female gender	171	81.9% (n=140)				
Yrs. experience	171	21.26	10.12	5-53	.629	-.124
Child trauma hx	167	53.2% (n = 91)				
Adult trauma hx	166	41.5% (n = 71)				

Data Analysis

Prior to conducting the analyses, all variables were examined for normality, homoscedasticity, and linearity. An examination of skew and kurtosis statistics, as well as Normal P-P Plots indicated that the data were normally distributed, and scattergrams suggested no problems with linearity warranting data transformation. An examination of bivariate correlations as well as tolerance and variance inflation factors (VIF) indicated no problems with collinearity for any study variables included in the regression analyses.

All data analysis was conducted using SPSS 18.0 for Windows. After an examination of zero-order correlations among all study variables, simultaneous entry Ordinary Least Squares (OLS) regression was used in this exploratory study to address the research questions and examine associations of control and predictor variables with each of the three outcome variables, compassion fatigue, burnout, and compassion satisfaction. Emotional separation, mindfulness, and the four empathy subscales were included in each model. Additionally, each model included the following individual characteristics as controls: age, gender, years of practice experience, adult trauma history and childhood trauma history. Following the OLS regression, hierarchical regression analyses were completed for each of the dependent variables in order to further explicate the relationships between variables.

Bivariate Correlations

Table 14 presents zero-order correlation coefficients for all study variables. Mindfulness and emotional separation demonstrated moderate to moderately strong correlations, with each of the three dependent variables, having correlations between .393 and .611 (all correlations were at $p. \leq .001$). Among the empathy subscales, personal distress was moderately correlated with all of the dependent variables (Pearson's r ranging from .364 to .392, all at $p. \leq .001$), and the perspective and fantasy subscales were each significantly, though weakly, correlated with two of the three dependent variables. These results will be discussed in more detail below.

Table 14
Zero-Order Correlations for All Study Variables

Var.	CF	B	CS	ES	M	PT	F	EC	PD	AT	CT	FG	A
(CF) Comp. Fatigue	-----												
(B) Burnout	.646**	-----											
(CS) Comp. Satis.	-.368**	-.725**	-----										
(ES) Emot. Sep.	-.611**	-.591**	.393**	-----									
(M) Mindfulness	-.429**	-.551**	.490**	.568**	-----								
(PT) Persp. Taking	-.134	-.212*	.290**	.149*	.357**	-----							
(F) Fantasy	.211*	.160*	-.096	-.232*	-.227*	-.067	-----						
(EC) Emp. Conc.	.125	.006	.146	-.181*	.004	.346**	.184*	-----					
(PD) Per. Distress	.364**	.392**	-.392**	-.432*	-.471**	-.379**	.320**	.005	-----				
(AT) Adult Tr. Hx	.229*	.124	-.022	-.136	-.165*	-.110	.106	-.086	.210*	-----			
(CT) Child Tr. Hx	.056	.046	-.044	-.053	-.045	-.224*	-.005	-.102	.130	.430**	-----		
(FG) Female Gender	.084	.215*	-.146	-.125	-.076	-.050	.067	.061	.109	.141	.136	-----	
(A) Age	-.074	-.210*	.196*	.099	.235*	.087	-.044	.010	-.075	.049	.085	-.286*	-----
(WE) Work Exp.	-.031	-.191*	.178*	.091	.182*	.074	.015	-.031	-.107	-.035	-.010	-.297*	.746**

* $p < .05$; ** $p < .001$

Dependent variables with independent variables and controls.

Compassion fatigue. As shown in Table 15, below, bivariate correlations indicate that compassion fatigue is negatively correlated with both emotional separation ($r = -.611, p \leq .001$) and mindfulness ($r = -.429, p \leq .001$) and positively correlated with two of the empathy subscales, fantasy ($r = .211, p \leq .01$) and personal distress ($r = .364, p \leq .001$), as well as with adult trauma history ($r = .229, p \leq .01$).

Burnout. Burnout similarly shows moderately strong negative correlations with both emotional separation ($r = -.591, p \leq .001$) and mindfulness ($r = -.551, p \leq .001$), and is weakly negatively correlated with the perspective-taking subscale ($r = -.212, p \leq .01$) of the empathy construct and with age ($r = -.210, p \leq .01$) and longer years of work experience ($r = -.191, p \leq .05$). Burnout was positively correlated with the empathy subscales of fantasy ($r = .160, p \leq .05$) and personal distress ($r = .392, p \leq .001$), as well as with female gender ($r = .215, p \leq .01$).

Compassion satisfaction. Compassion satisfaction was most strongly correlated with mindfulness ($r = .490, p \leq .001$), with higher mindfulness scores predicting higher compassion satisfaction scores. Compassion satisfaction also had positive correlations with emotional separation ($r = .393, p \leq .000$), perspective taking ($r = .290, p \leq .000$), greater age ($r = .196, p \leq .05$) and longer years work experience ($r = .178, p \leq .05$).

Table 15

Bivariate Correlations for Dependent Variables with Independent Variables and Controls

	ES	M	PT	F	EC	PD	AT	CT	FG	A	WE
CF	-.611***	-.429***	-.134	.211**	.125	.364***	.229**	.056	-.074	-.074	-.031
B	-.591***	-.551***	-.212**	.160*	.006	.392***	.124	.046	.215**	-.210**	-.191*
CS	.393***	.490***	.290***	-.096	.146	-.392***	-.022	-.044	-.146	.196*	.178*

* $p < .05$; ** $p < .01$, *** $p < .001$;

CF = compassion fatigue; B = burnout; CS = compassion satisfaction; ES = emotional separation; M = Mindfulness; PT = perspective taking; F = fantasy; EC = empathic concern; AT = adult trauma; CT = child trauma; FG = female gender; WE = years work experience

Correlations among key independent variables. As indicated in Table 16, below, mindfulness and emotional separation show moderately strong positive correlations with each other ($r = .568$, $p \leq .001$). Mindfulness and emotional separation are also correlated positively with the empathy subscale of perspective taking, though perspective taking has a stronger relationship with mindfulness ($r = .357$, $p \leq .001$) than with emotional separation ($r = .149$, $p \leq .05$). Both mindfulness and emotional separation are negatively correlated with the fantasy empathy subscale ($r = -.277$, $p \leq .01$ and $r = -.232$, $p \leq .01$, respectively) and with the personal distress empathy subscale ($r = -.471$, $p < .001$ and $r = -.432$, $p \leq .001$, respectively). Emotional separation is negatively, though weakly, associated with empathic concern ($r = -.181$, $p \leq .05$), while mindfulness is uncorrelated with this variable.

Table 16

Bivariate Correlations among Key Independent Variables

	ES	M	PT	F	EC
(ES) Emot. Sep.	-----				
(M) Mindfulness	.568***	-----	.	.	
(PT) Persp. Taking	.149*	.357***	-----		
(F) Fantasy	-.232**	-.277**	-.067	-----	
(EC) Emp. Conc.	-.181*	.004	.346***	.184*	-----
(PD) Per. Distress	-.432***	-.471***	-.379***	.320**	.005

* $p < .05$; ** $p < .01$, *** $p < .001$;

ES = *emotional separation*; M = *Mindfulness*; PT = *perspective taking*; F = *fantasy*; EC = *empathic concern*

Independent variables with controls. Table 17, below, displays correlations between independent variables and control variables. It is worth noting that emotional separation was not significantly correlated with any of the individual factors used as controls in this study. Mindfulness was negatively associated with adult trauma history ($r = -.165$, $p \leq .05$) and positively associated with age ($r = .235$, $p \leq .01$). Interestingly, the perspective taking subscale of the empathy construct was negatively associated with childhood trauma history ($r = -.224$, $p \leq .01$), and the personal distress subscale was positively associated with adult trauma history ($r = .210$, $p \leq .01$). Female gender was negatively associated with age ($r = -.286$, $p \leq .001$) and with years of work experience ($r = -.297$, $p \leq .001$), suggesting that despite the larger percentage of women in the LCSW workforce, they tend to be younger and have fewer years of experience than males.

Table 17

Bivariate Correlations for Independent Variables with Controls

	Adult Trauma	Child Trauma	Female Gender	Age	Yrs. Work Experience
(ES) Emot. Sep.	-.136	-.035	-.125	.099	.091
(M) Mindfulness	-.165*	-.045	-.076	.235**	.182*
(PT) Persp. Taking	-.110	-.224**	-.050	.087	.074
(F) Fantasy	.106	-.005	.067	-.044	.015
(EC) Emp. Conc.	-.086	-.102	.061	.010	-.031
(PD) Per. Distress	.210**	.130	.109	-.075	-.107

* $p < .05$; ** $p < .01$, *** $p < .001$;

Summary. Bivariate analyses indicate fairly strong relationships between the dependent variables and several of the independent variables, particularly mindfulness, emotional separation, and the personal distress subscale of the empathy construct. Although one of the empathy subscales and some of the control variables were not significantly correlated with the dependent variables in bivariate analysis, the decision was made to retain all variables in the initial multivariate analyses, based on theory, previously identified associations, and the exploratory nature of the current study.

Regression Analyses

A priori power analyses were computed to assure that the sample size was sufficient to perform all of the regression analyses, each of which included 12 variables. The results indicated that the sample size in the current study was sufficient for all of the regression analyses, with power set at .90 and alpha set to .001. Simultaneous-entry OLS regression analyses were run by regressing each of the dependent variables (compassion fatigue, burnout, and compassion satisfaction) on the key independent variables (mindfulness, emotional separation, and the four empathy subscales), and the control

variables. Subsequently, hierarchical regression analyses were run for each dependent variable in order to further explicate relationships. All variables were examined for normality, homoscedasticity, and linearity. Skew and kurtosis statistics, as well as Normal P-P Plots indicated that the data were normally distributed, and scattergrams suggested no problems with linearity which required data transformation. An examination of tolerance and variance inflation factors (VIF) indicated no problems with multicollinearity.

As mentioned previously, the decision was made to retain the outliers in the bivariate analysis based on examination of each individual case and the determination that the scores were not due to entry errors and were not extreme, but appeared to be valid responses. Since multiple regression can be very sensitive to outliers (Garson, 2010) several methods were used to examine outliers among variables used in the multiple regression models and to determine whether those outliers were exerting an undue effect on the analyses.

Tabachnick and Fidell (2001) recommend examining cases with standardized residuals greater than ± 3.3 . Scatterplots and casewise diagnostics (in SPSS) were used to examine the data and locate cases. For compassion fatigue, one case met this criteria (case # 50, with a standardized residual of 3.99), though another came close (case # 81, standardized. residual 3.18). For burnout and compassion satisfaction, there were no cases that met the ± 3.3 criteria, though for burnout, one case was above 3.0 (case # 106, -3.135).

Mahalanobis distances were then compared with critical Chi-square values using the number of independent variables as the degrees of freedom. Using Tabachnick and

Fidell's (2001) suggestion of using an alpha level of .001, the critical value identified from the chi-square table was 32.910. None of the dependent variables showed a Mahalanobis distance that crossed this threshold, with scores for compassion fatigue at 27.253; burnout, 27.180; and compassion satisfaction, 27.353.

To examine whether the outliers identified were exerting undue influence on the analysis, Cook's distances were also examined. Cases with a value for Cook's Distance greater than 1 are considered potentially problematic (Tabachnick & Fidell, 2001). The Cook's Distance values did not approximate 1.0 for any of the three dependent variables, with the value for compassion fatigue at .147, for burnout, .216, and for compassion satisfaction, .081.

Given the results of both the Mahalanobis and Cook's Distance tests, no deletions or transformations were made. As a final check, as recommended by Mertler and Vanatta (2005), I also ran the regression analyses on a dataset with outliers eliminated. This resulted only in very minor changes in output and did not affect findings in any meaningful way, which further supported the decision to retain outliers.

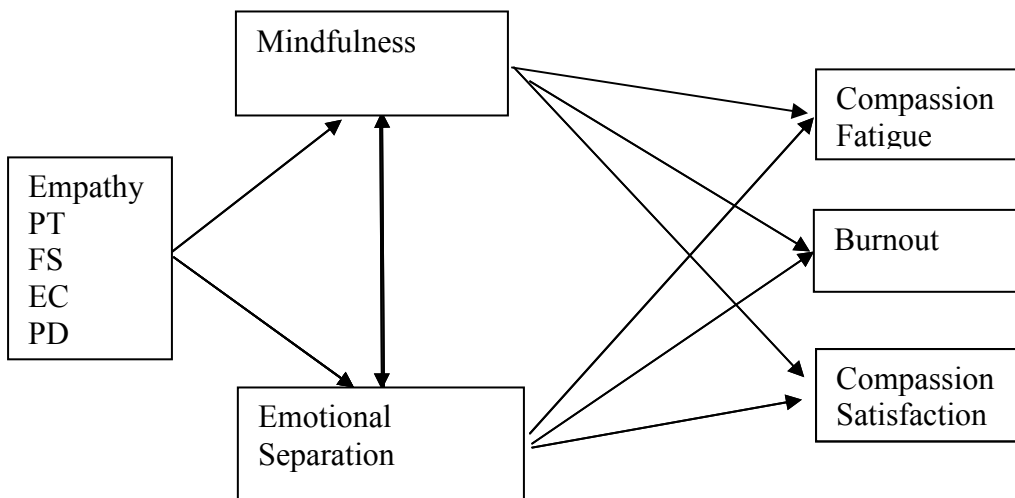
Analyses addressing research questions.

The model proposed in this study (see Figure 2, below) suggested that all three of the dependent variables, compassion fatigue, burnout, and compassion satisfaction would be significantly predicted by empathy. The model further suggested that the dependent variables would be affected by the level of clinician mindfulness, and by clinicians' capacity to maintain a differentiated sense of self. Mindfulness and emotional separation were consequently included as additional independent variables predicting all three of the dependent variables.

Given prior research which showed conflicting findings regarding the relationship of empathy with secondary stress disorders, the model for this study proposed that the effects of empathy on the dependent variables might be indirect, mediated through mindfulness, emotional separation, or both. Further, since mindfulness has been linked theoretically and empirically with an ability to shift attention and perspective (Slagter et al. 2007) the model proposed that some aspects of mindfulness may overlap (empirically as well as conceptually) with emotional separation in their effect on the dependent variables.

Figure 2

Proposed model predicting compassion fatigue, burnout, and compassion satisfaction



Predicting compassion fatigue. Research question 1 asked: Will the model of mindfulness, empathy, and emotional separation significantly predict scores on compassion fatigue? Controlling for several individual factors (age, female gender, years work experience, past history of trauma in adulthood, and past history of trauma in childhood), which of the independent variables will be most closely associated with lower levels of compassion fatigue?

The first simultaneous-entry OLS regression analysis examined the relationship between all explanatory variables and compassion fatigue (Table 18). The total model explained approximately 41% of the variance in compassion fatigue scores ($F_{(11, 147)} = 9.33, p \leq .001$).

Table 18

Regression Analysis of Factors Predicting Compassion Fatigue

Compassion Fatigue	Unstandardized B	Std. Error	β
Child Trauma History	-.732	1.033	-.051
Adult Trauma History	2.186	1.034	.152*
Age	-.047	.064	-.070
Female Gender	-.283	1.277	-.015
Years Work Experience	.068	.069	.092
Perspective Taking	.013	.144	.007
Fantasy	.006	.096	.004
Empathic concern	.099	.134	.053
Personal Distress	.152	.133	.092
Mindfulness	-.031	.035	-.079
Emotional Separation	-.792	.131	-.499***
R^2 (Adj. R^2)			.411(.367)***

*, $p < .05$; **, $p < .01$; *** $p < .001$

Control variables: adult trauma history. Among the individual characteristics (controls) included in the model, only adult trauma history made a significant contribution ($\beta = .152, p \leq .05$), with individuals with a past history of experiencing trauma during adulthood having significantly higher scores on compassion fatigue than people who did not experience trauma in adulthood. As mentioned previously, adult trauma history was included both as a dummy variable, which was used in the regression analyses, and as an ordinal variable, with response options of no trauma, mild trauma, moderate trauma, and severe trauma. An analysis of variance (ANOVA) procedure, with post-hoc tests, was performed to assess differences based on severity of past trauma. .

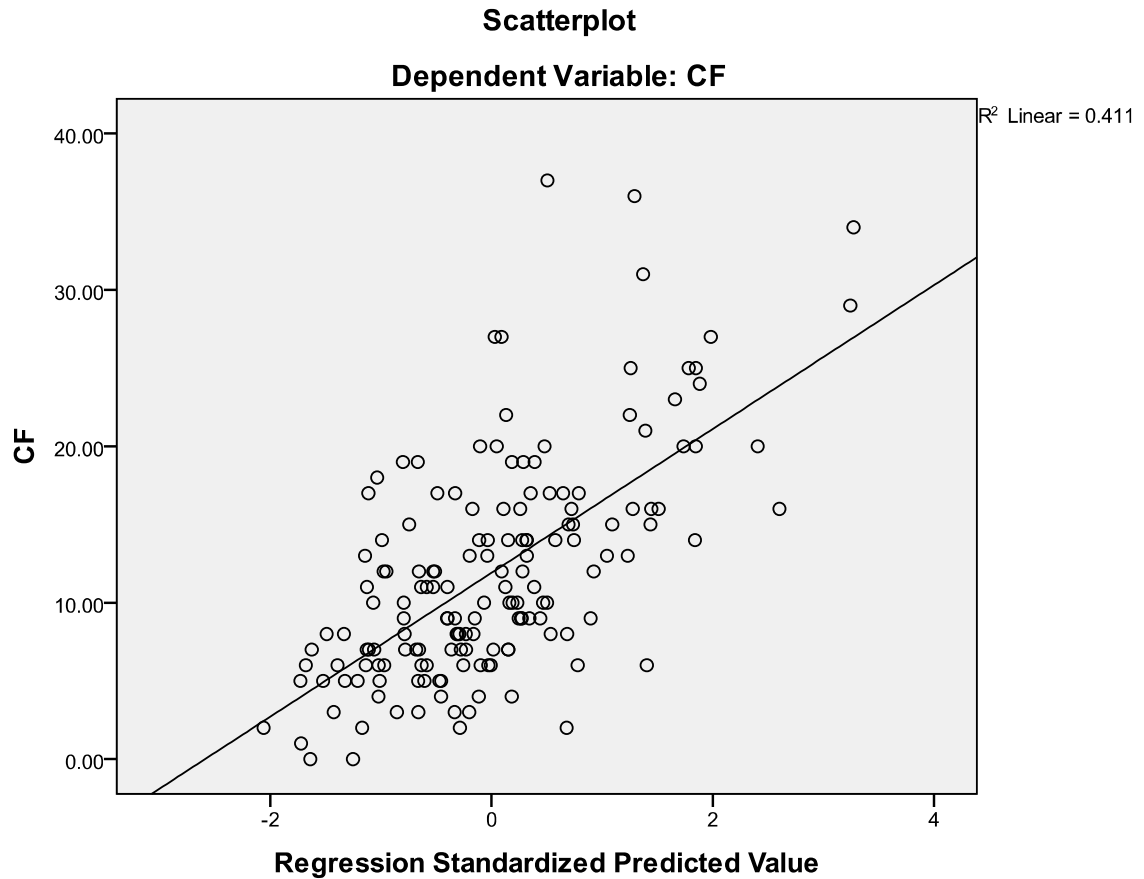
These results will be discussed on p. 140-143 in the “additional findings” section, as they are somewhat peripheral to the focus of this study.

Emotional Separation. Despite the strength of the overall model, emotional separation was the only key predictor significantly associated with variation in levels of compassion fatigue. Specifically, respondents with higher levels of emotional separation were at lower risk of compassion fatigue ($\beta = -.499, p \leq .001$). Compassion fatigue scores decreased by .792 points for every one-point increase in emotional separation scores. Though there was a strong negative bivariate correlation between mindfulness and compassion fatigue, mindfulness was not significant in the simultaneous entry multivariate analysis, suggesting a possibility of some overlap between these two variables.

Similarly, although two of the empathy subscales, fantasy and personal distress, were significantly correlated with compassion fatigue in bivariate analysis, none of the subscales made a significant contribution to the regression model. Figure 1 (below) shows a scatterplot of the full model predicting compassion fatigue.

Figure 3

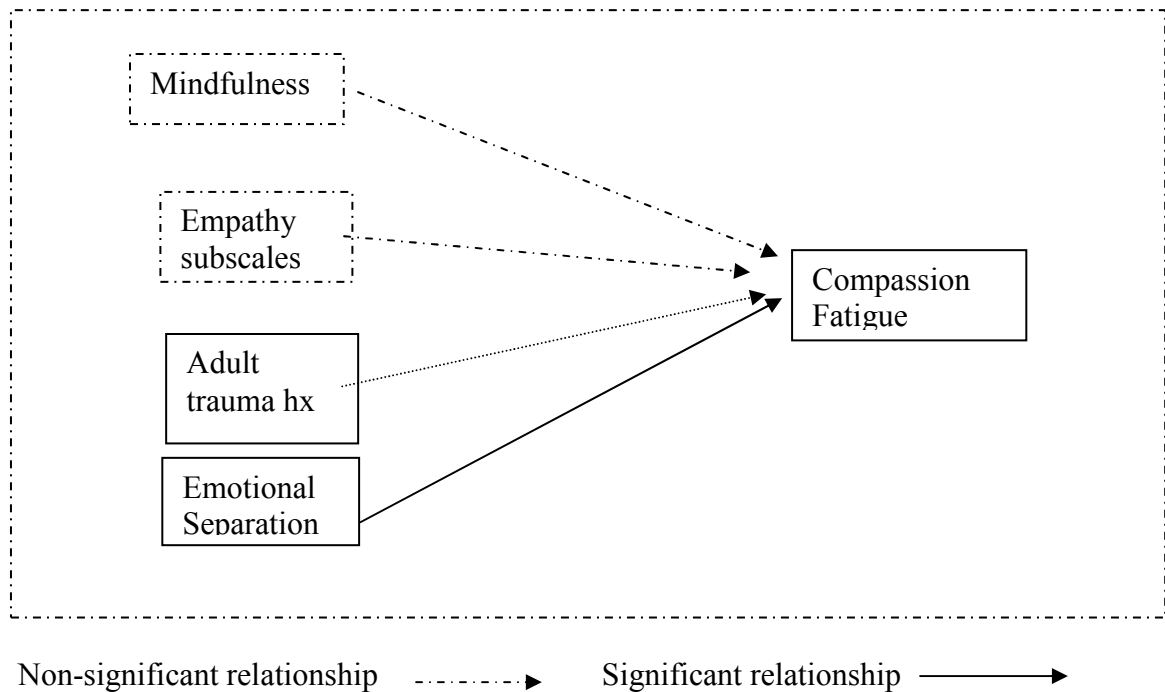
Scatterplot of Total Model Predicting Compassion Fatigue



The revised model predicting compassion fatigue, based on the results of the simultaneous entry regression, is shown in Figure 4, below. Emotional separation and the presence of a history of adult trauma were significant predictors of compassion fatigue, but neither mindfulness nor empathy made a significant contribution to the model.

Figure 4

Simultaneous Entry Regression Model Predicting Compassion Fatigue



Hierarchical regression. These results of the simultaneous entry regression analysis (suggesting that emotional separation and adult trauma history were the only variables significantly predicting compassion fatigue) were somewhat surprising, given the strength of the bivariate correlations of compassion fatigue with both mindfulness ($r = -.429, p \leq .001$) and personal distress ($r = .364, p \leq .001$). When variables are entered into a regression equation sequentially, it is possible to see what each variable or set of variables adds to the predictive power of the model over and above what the previously entered variables have shown (Tabachnick & Fidell, 2001). (It is understood, however, that causation cannot be determined by correlational data, and that while associations may be shown, the direction of effects proposed will need to be later tested with experimental models.)

Therefore, in order to better understand the relationships between the independent variables and compassion fatigue, an hierarchical regression analysis (using the enter method) was conducted. The control variables (child and adult trauma histories, age, female gender, years work experience) were entered in block 1. Given the emphasis in the literature on empathy as a path of vulnerability to secondary stress disorders, the four empathy subscales were entered in block 2. Mindfulness was entered in block 3, based on theoretical and empirical suggestion that mindfulness may allow individuals to step back from their immediate experience and take a meta-cognitive view of their experience. Finally, emotional separation was entered in block 4. Results of the regression analysis are shown in Table 19, below.

Table 19

Hierarchical Regression Predicting Compassion Fatigue

	β	β	β	β
Block 1				
ChTraumaHx	-.051	-.055	-.036	-.051
AdTraumaHx	.244**	.191*	.153	.152*
Age	-.128	-.123	-.063	-.070
Gender	.043	.014	.026	-.015
Yrs. Wk. Exp.	.080	.097	.100	.092
Block 2 Empathy:				
Perspective taking		-.032	.053	.007
Fantasy		.052	.026	.004
Empathic concern		.146	.125	.053
Personal distress		.301***	.185*	.092
Block 3				
Mindfulness			-.334***	-.079
Block 4				
Emotional Separation				-.499***
R^2	.062	.192	.265	.411
$R^2\Delta$.062	.130***	.073***	.146***
Total Model				
F	9.331***			
R^2 (Adj. R^2)	.411 (.367)			

* $p < .05$; **, $p < .01$; *** $p < .001$

Block 1, containing the 5 control variables, explained about 6% of the variance ($F = 2.014$ (5, 153), $p = .080$). The overall model did not reach the $p \leq .05$ significance level, but one variable, adult trauma, was a significant predictor of compassion fatigue ($\beta = .244$, $p = .005$) suggesting that a history of trauma in adulthood may predict higher levels of compassion fatigue.

Block 2 was significant ($F = 3.923$ (9, 149), $p \leq .001$) with the total model explaining about 19% of the variance in compassion fatigue scores. The $R^2 \Delta$ was .13 ($p \leq .001$), suggesting that the added variables did contribute to the overall model. When the four empathy subscales were included in this step of the analysis, the strength of the standardized β for the adult trauma variable was lessened, but remained significant ($\beta = .191$, $p = .023$). Personal distress was the only empathy subscale that made a significant individual contribution to the model ($\beta = .301$, $p \leq .001$), suggesting that higher levels of personal distress may predict higher levels of compassion fatigue.

Block 3 included mindfulness as a variable. The $R^2 \Delta$ was .073 ($p \leq .001$), and the total model explained 26.5% of the variance in compassion fatigue ($F = 5.332$, (10, 148), $p \leq .001$). Interestingly, with the addition of mindfulness, the standardized regression coefficient (β) for adult trauma dropped to .153, ($p = .058$), and was no longer significant as a predictor. The standardized β for personal distress also dropped (from .301 to .185), however personal distress remained a significant predictor of compassion fatigue ($p = .037$). Mindfulness was the strongest predictor ($\beta = -.334$, $p \leq .001$) with higher mindfulness scores significantly predicting lower compassion fatigue scores.

Finally, when emotional separation was entered in Block 4, the Model $R^2 \Delta$ was .146 ($p \leq .001$), with the total model explaining 41% of the variance ($F = 9.331$, (11, 147), p

$\leq .001$). Only adult trauma history ($\beta = .152$, $p = .036$) and emotional separation ($\beta = -.499$, $p \leq .001$) remained significant. The personal distress subscale of the empathy construct, which had shown a weaker relationship when mindfulness was controlled in Block 3, was no longer significant when emotional separation was included in Block 4. Mindfulness, also, became insignificant with the inclusion of emotional separation. As with mindfulness in the previous block, higher levels of emotional separation were associated with lower levels of compassion fatigue.

While the full hierarchical regression model, like the simultaneous entry regression model, shows emotional separation as the only key independent variable that significantly predicts compassion fatigue, it also raises questions about relationships between mindfulness and emotional separation and between the personal distress empathy subscale and both mindfulness and emotional separation. These relationships suggest a possible mediation effect, which will be addressed in sections below related to research questions 4 and 5 which examine relationships between key independent variables.

In response to research question 1, the overall model did significantly predict compassion fatigue. While mindfulness predicted compassion fatigue at the $p \leq .001$ level in the absence of emotional separation, emotional separation was the only one of the key independent variables which remained a significant predictor of compassion fatigue in the full model. One of the control variables, adult trauma history, was also a predictor of higher compassion fatigue scores. Further examination of possible indirect effects on compassion fatigue will be discussed in the sections addressing research questions 4 and 5, p.131-140.

Predicting burnout. Research question 2 asked: Will the model of mindfulness, empathy, and emotional separation significantly predict burnout scores? Controlling for several individual factors (child and adult trauma histories, age, female gender, and years work experience), which of the independent variables will be most closely associated with lower levels of burnout?

Table 20 shows regression coefficients for the model associated with burnout. The total model ($F_{(11, 147)} = 11.06, p \leq .001$) was significant and explained over 45% of the variance in burnout scores (also see scatter plot, figure 5). None of the individual characteristics made a significant contribution to the model. Emotional separation demonstrated a moderate negative association with burnout ($\beta = -.413, p \leq .001$). Similarly, higher scores on mindfulness were associated with lower levels of burnout ($\beta = -.234, p \leq .01$). None of the four empathy scales made significant contributions to the model.

Table 20

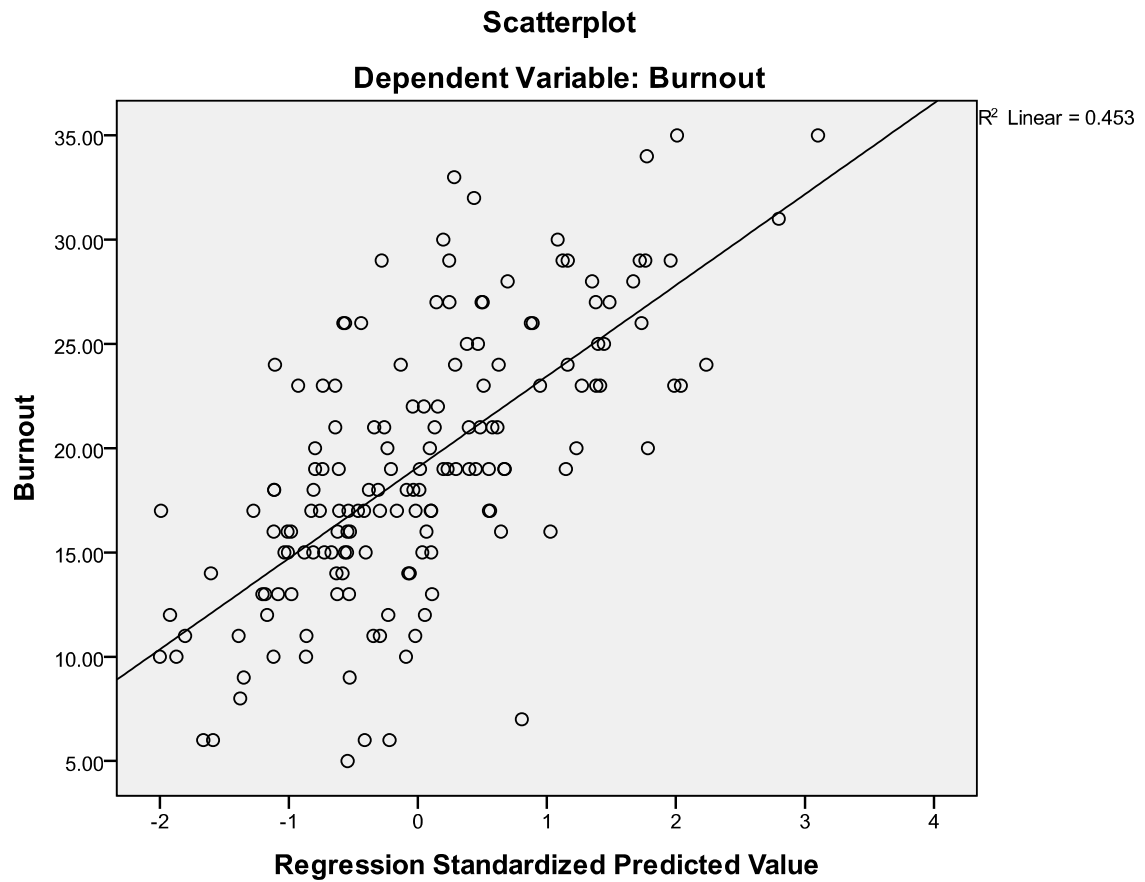
Regression Analysis of Factors Associated with Burnout

	Unstandardized B	Std. Error	β
Child Trauma History	-.410	.894	-.032
Adult Trauma History	-.288	.899	-.017
Age	-.010	.056	-.016
Female Gender	2.031	1.113	.118
Years Work Experience	-.047	.061	-.070
Perspective Taking	.023	.126	.014
Fantasy	-.017	.083	-.014
Empathic concern	-.134	.119	-.079
Personal Distress	.172	.116	.115
Mindfulness	-.083	.030	-.234**
Emotional Separation	-.591	.114	-.413***
R^2 (Adj. R^2)			.453(.412)***

$p < .05$; **, $p < .01$; *** $p < .001$

Figure 5

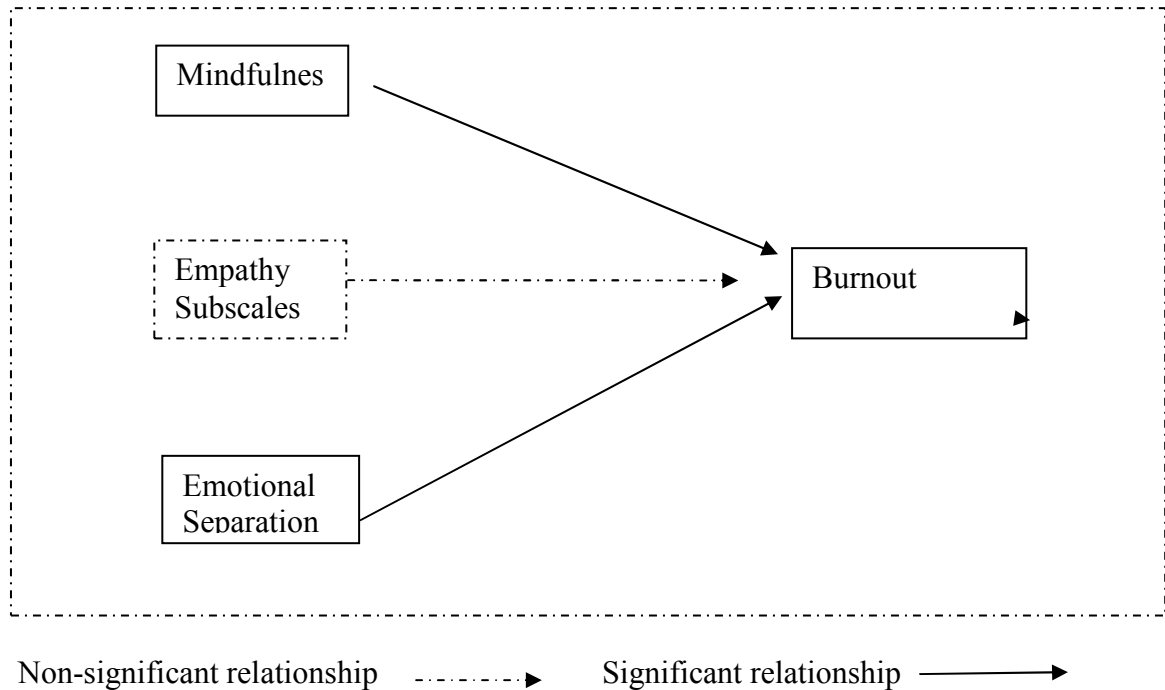
Scatterplot of Total Model Predicting Burnout



The revised model predicting burnout, based on the results of the simultaneous entry regression, is shown in Figure 6 below. Both emotional separation and mindfulness were significant predictors of compassion fatigue, and none of the empathy subscales made a significant contribution to the model.

Figure 6

Simultaneous entry regression model predicting burnout



Hierarchical regression. Burnout had been weakly associated in bivariate correlations with both the perspective taking ($r = -.212$, $p \leq .05$) and fantasy ($r = .160$, $p \leq .05$) empathy subscales, and more strongly associated with the personal distress subscale ($r = .392$, $p \leq .001$). Using the same logic mentioned above in the section on compassion fatigue, an hierarchical regression (using the enter method) was also conducted for burnout. Again, the control variables (adult and child trauma histories, age, female gender, years work experience) were entered in block 1, the four empathy subscales were entered in block 2, mindfulness was entered in block 3, and finally, emotional separation was entered in block 4.). Results are shown in Table 21.

Block 1, containing the 5 control variables, was significant and explained about 8% of the variance in burnout scores ($F=2.75_{(5, 153)}$, $p = .021$). None of the individual control

variables reached significance as predictors of burnout, although female gender ($\beta = .159$, $p = .052$) was close.

Block 2 added the empathy subscales, and was significant ($F = 4.68$ ($9, 149$), $p \leq .001$), explaining about 22% of the variance in burnout scores. The $R^2 \Delta$ was .13 ($p \leq .001$). When the four empathy subscales were included in the analysis, personal distress was the only significant variable, ($\beta = .348$, $p \leq .001$), suggesting that higher levels of personal distress may predict higher burnout scores.

The $R^2 \Delta$ was .132 ($p \leq .001$) for Block 3, in which mindfulness was added. The total model explained 35.3% of the variance in burnout scores ($F = 8.07$, ($10, 148$), $p \leq .001$). With the introduction of mindfulness, the standardized β for personal distress was reduced almost by half (from .348 to .192) but remained significant ($p = .021$). Gender became significant as a predictor in this step ($\beta = .154$, $p = .029$). Mindfulness was the strongest predictor ($\beta = -.334$, $p \leq .001$) with higher mindfulness scores significantly predicting lower compassion fatigue scores.

Emotional Separation was entered in Block 4, with an $R^2 \Delta$ of .100 ($p \leq .001$). The total model explained over 45% of the variance ($F = 11.06$ ($11, 147$), $p \leq .001$). Gender again dropped below the level of significance ($\beta = .118$, $p = .070$). It is interesting to note that while personal distress was reduced in block 3 with the introduction of the mindfulness variable, it was further reduced when emotional separation was introduced, and in fact ceased to be significant ($\beta = .115$, $p = .140$). Mindfulness ($\beta = -.234$, $p = .007$) and Emotional Separation ($\beta = -.413$, $p \leq .001$) both remained significant, with higher scores of each predicting lower burnout scores.

This hierarchical regression shows a significant relationship between mindfulness, emotional separation and compassion fatigue. It also suggests that further examination of the relationships between mindfulness and emotional separation with the personal distress subscale of the empathy construct is warranted.

Table 21

Hierarchical Regression Predicting Burnout

	β	β	β	β
Block 1				
ChTraumaHx	-.022	-.052	-.024	-.032
AdTraumaHx	.107	.038	-.013	-.017
Age	-.120	-.099	-.011	-.016
Gender	.159	.138	.154*	.118
Yrs. Wk Exp.	-.070	-.064	-.060	-.070
Block 2 Empathy:				
Perspective Taking		-.059	.053	.014
Fantasy		.027	.002	-.014
Empathic concern		.016	-.017	-.079
Personal distress		.348***	.192*	.115
Block 3				
Mindfulness			-.447***	-.234**
Block 4				
Emotional Separation				-.413***
R^2	.082*	.220	.353	.453
$R^2\Delta$.082	.138***	.132***	.100***
Total Model				
F	11.059***			
R^2 (Adj. R^2)	453 (.412)			

*, $p < .05$; **, $p < .01$; *** $p < .001$

In response to research question 2, the model presented does significantly predict burnout scores. Emotional separation was the strongest predictor, but mindfulness also directly predicted burnout. Further examination of possible indirect effects on burnout will be discussed (p. 135 and 138-139).

Predicting compassion satisfaction. Research question 3 asked: Will the model of mindfulness, empathy, and emotional separation significantly predict compassion satisfaction scores? Controlling for several individual factors (age, female gender, years work experience, past history of trauma in adulthood, and past history of trauma in childhood), which of the independent variables will be most closely associated with lower levels of compassion satisfaction?

The simultaneous entry regression analysis reported in Table 22, below, presents the model examining compassion satisfaction. The total model was significant ($F_{(11, 148)} = 6.51, p \leq .001$) and explained 32.6% of the variance in compassion satisfaction scores. Compassion satisfaction scores were not significantly affected by age, gender, years of practice experience, adult trauma history or childhood trauma. Figure 7 below shows a scatterplot of the full model predicting compassion satisfaction.

Mindfulness ($\beta = .274, p \leq .01$) demonstrated the strongest association with compassion satisfaction, with higher mindfulness scores correlating with higher levels of compassion satisfaction. Emotional separation also had a significant positive relationship with compassion satisfaction ($\beta = .177, p \leq .05$), suggesting that despite the moderately strong bivariate correlation between mindfulness and emotional separation, they each made some distinct contribution to the variance in compassion satisfaction scores. Two empathy subscales were also significant, albeit weak, contributors to the model. Specifically, a significant positive relationship was found between empathic concern and compassion satisfaction ($\beta = .187, p \leq .05$), and a significant negative relationship was found for personal distress and compassion satisfaction ($\beta = -.193, p \leq .05$).

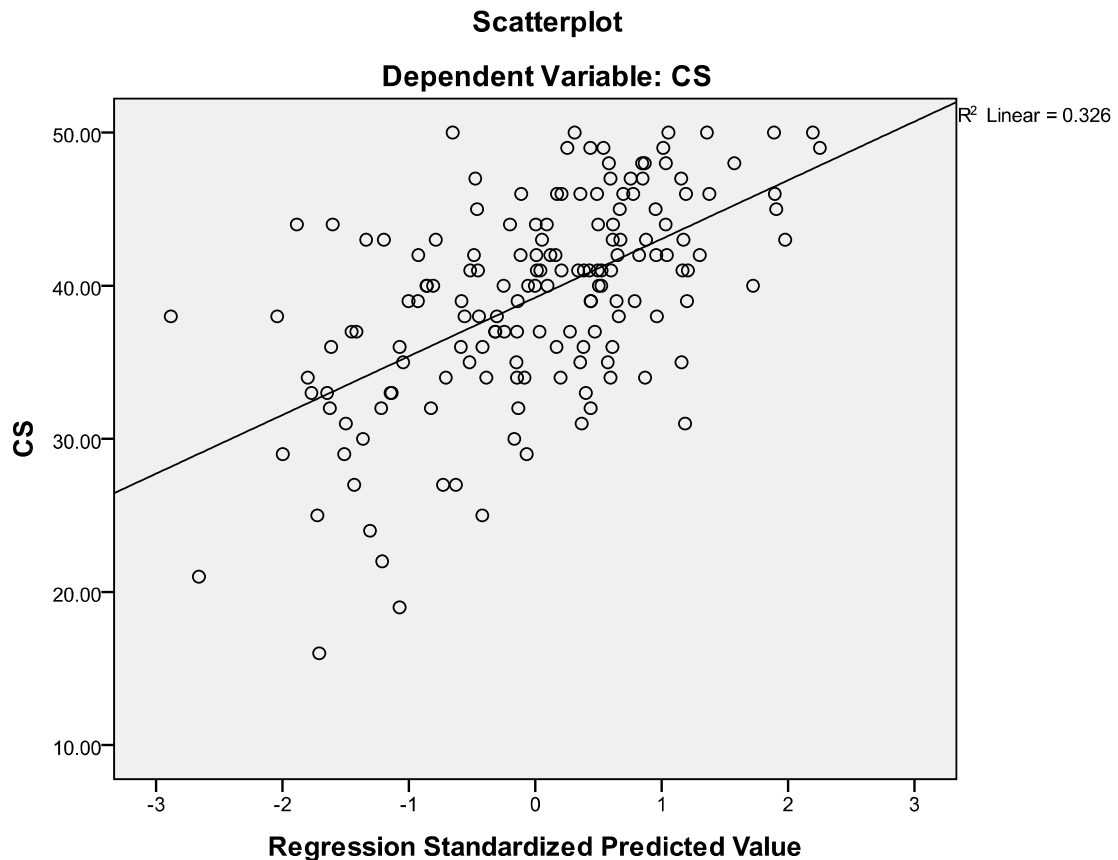
Table 22

Regression Analysis of Factors Associated with Compassion Satisfaction

	Unstandardized B	Std. Error	Compassion Satisfaction β
Child Trauma History	-.063	1.024	-.005
Adult Trauma History	1.675	1.031	.124
Age	.008	.065	.012
Female Gender	-1.277	1.276	-.072
Years Work Experience	.046	.070	.067
Perspective Taking	.050	.144	.029
Fantasy	.041	.096	.032
Empathic concern	.329	.136	.187*
Personal Distress	-.299	.133	-.193*
Mindfulness	.100	.035	.274**
Emotional Separation	.263	.131	.177*
R² (Adj. R²)			.326(.276)***

* $p < .05$; **; $p < .01$; *** $p < .001$

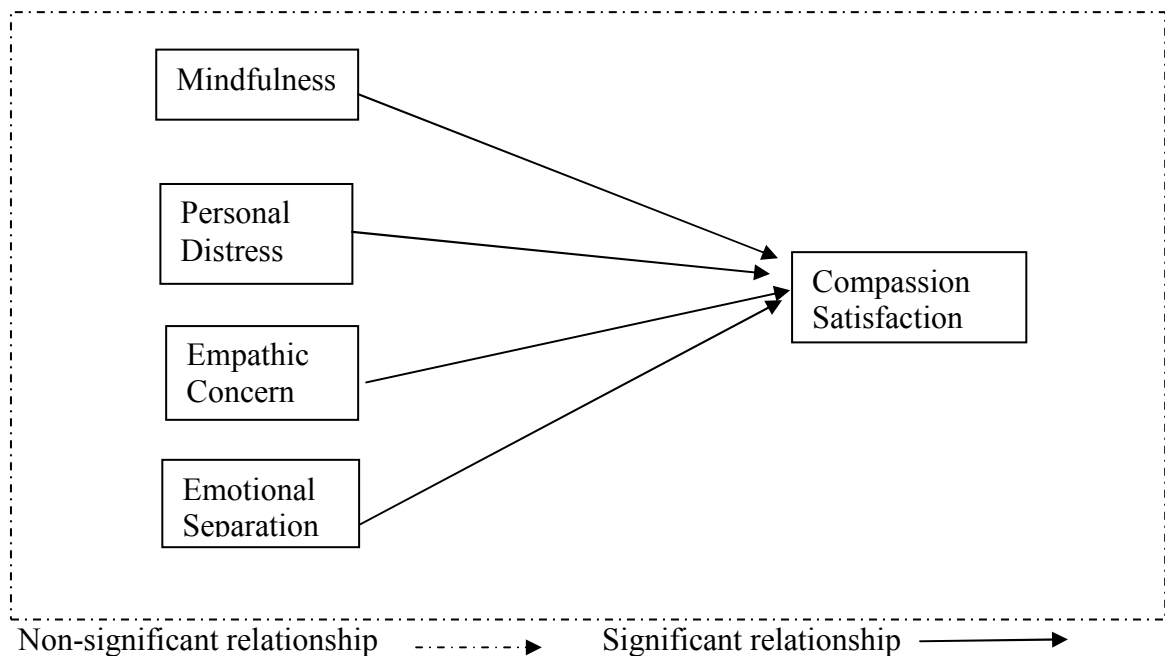
Figure 7

Scatterplot with Total Model Predicting Compassion Satisfaction

The revised model predicting compassion satisfaction, based on the results of the simultaneous entry regression, is shown in Figure 8, below. Both emotional separation and mindfulness were significant predictors of compassion satisfaction. In addition, the personal distress and empathic concern subscales of the empathy construct were each significantly associated with compassion satisfaction.

Figure 8

Simultaneous entry regression model predicting compassion satisfaction



Hierarchical regression. Compassion satisfaction had been positively correlated in bivariate correlations with the perspective taking subscale ($r = .290, p \leq .001$) of the empathy construct, as well as with age ($r = .196, p = .05$) and work experience ($r = .178, p \leq .05$), though none of these relationships were significant in the simultaneous entry OLS regression. An hierarchical regression was completed with the compassion satisfaction variable, with the same predictor and control variables entered as for the models predicting compassion fatigue and burnout. Adult and child trauma histories,

age, female gender, and years work experience were entered in block 1, the four empathy subscales were entered in block 2, mindfulness was entered in block 3, and finally, emotional separation was entered in block 4. Results are shown in Table 23.

Block 1, containing the 5 control variables, explained 4.5% of the variance but the model was not significant ($F=1.45$ (5, 154), $p = .210$). None of the individual variables were significant predictors of compassion satisfaction in this model.

The $R^2 \Delta$ for Block 2, in which the empathy subscales were added, was .175 ($p \leq .001$), with the total model ($F = 4.69$ (9, 150), $p \leq .001$) reaching significance and explaining 22% of the variance in compassion satisfaction scores. When the four empathy subscales were included in the analysis, personal distress was the only one of the empathy subscales that was significant ($\beta = -.353$, $p \leq .001$), suggesting that higher levels of personal distress may predict lower levels of compassion satisfaction.

Block 3 introduced mindfulness as a variable. The $R^2 \Delta$ was .088 ($p \leq .001$), and the total model explained almost 31 % of the variance in compassion satisfaction ($F = 6.62$ (10, 149), $p \leq .001$). The standardized β for personal distress was lowered (from $-.353$ to $-.226$, $p = .009$) but remained significant, with higher personal distress still predicting lower compassion satisfaction. It is interesting to note that with the addition of mindfulness in the equation, the empathic concern subscale of the empathy construct became significant ($\beta = .160$, $p = .039$). Mindfulness was the strongest predictor of compassion satisfaction ($\beta = .365$, $p \leq .001$) with higher mindfulness scores significantly predicting higher compassion satisfaction scores.

Finally, when emotional separation was entered in Block 4, the $R^2 \Delta$ was .018 ($p \leq .05$), with the total model explaining almost 33% of the variance ($F = 6.51$ (11, 148), $p =$

.046). The personal distress subscale of the empathy construct continued to significantly predict compassion satisfaction ($\beta = -.193$, $p = .026$) with higher personal distress predicting lower compassion satisfaction. Empathic concern was also a predictor of compassion satisfaction ($\beta = .187$, $p = .017$), with higher empathic concern scores associated with higher compassion satisfaction scores. Mindfulness was the strongest predictor of compassion satisfaction in the model ($\beta = .274$, $p = .004$), but emotional separation also explained some distinct portion of the variance ($\beta = .177$, $p = .046$). Higher scores in both mindfulness and emotional separation predicted higher compassion satisfaction scores.

This hierarchical regression shows a significant relationship between mindfulness and emotional separation with compassion satisfaction, and also indicated significant relationships between compassion fatigue and two of the empathy subscales, personal distress and empathic concern. While the effect of the personal distress variable had disappeared in the models predicting compassion fatigue and burnout when mindfulness and emotional separation were included, this did not occur with compassion satisfaction. In addition, the hierarchical model indicated that empathic concern only became significant as a predictor of compassion satisfaction when mindfulness, and later emotional separation, were included in the model. Again, these relationships suggested the need for further exploration, as these results could be indicative of a moderating effect of mindfulness and emotional separation on the relationship between empathic concern and compassion satisfaction. (This will be discussed further in the section examining research question 4.)

Table 23

Hierarchical Regression Predicting Compassion Satisfaction

	β	β	β	β
Block 1				
ChTraumaHx	-.043	.015	-.008	-.005
AdTraumaHx	.003	.081	.122	.124
Age	.125	.082	.010	.012
Gender	-.083	-.074	-.087	-.072
Yrs. Work Exp.	.057	.065	.062	.067
Block 2 Empathy:				
Perspective Taking		.103	.012	.029
Fantasy		.004	.025	.032
Empathic concern		.133	.160*	.187*
Personal distress		-.353***	-.226 **	-.193*
Block 3				
Mindfulness			.365***	.274**
Block 4				
Emotional Separation				.177*
R²	.045	.220	.308	.326
R²Δ	.045	.175***	.088***	.018*
Total Model				
F	6.512***			
R ² (Adj. R ²)	.326 (.276)			

* $p < .05$; **, $p < .01$; *** $p < .001$

In answer to research question 3, the model presented did significantly predict compassion satisfaction scores. Mindfulness was the strongest predictor ($B = .274$, $p = .004$), but emotional separation was also a significant predictor ($B = .177$, $p = .046$), as were personal distress ($B = -.193$, $p = .026$) and empathic concern ($B = .187$, $p = .017$). Further discussion of mediating and moderating effects will be addressed in the following section.

Empathy subscales with mindfulness and emotional separation. Research Question 4 asked: What are the relationships of relevant empathy subscales (*empathic concern, perspective taking, fantasy, and personal distress*) with mindfulness and

emotional separation? Do mindfulness and emotional separation mediate relationships between empathy subscales and dependent variables?

Empathy has long been held to be a factor related both to therapeutic effectiveness and to potentially problematic effects for clinicians in terms of vulnerability to burnout and to secondary stress disorders. This study examined empathy not as a one-dimensional construct, but used the subscales of the IRI to examine the predictive capacity of the individual subscales representing different aspects of the empathy construct.

Mediation of personal distress by mindfulness and emotional separation. In examining the hierarchical regressions for each of the three dependent variables, step 2 of each regression, which included the empathy subscales without mindfulness and emotional separation, indicated that personal distress is the only empathy subscale which is significant in predicting the dependent variables. This step of each of the three regression models predicting compassion fatigue, burnout, and compassion satisfaction showed moderately strong relationships between personal distress and all three of the dependent variables. For the model predicting compassion fatigue, personal distress was a significant predictor with $\beta = .301$, $p \leq .001$. For the model predicting burnout, personal distress was significant with a β of .348, $p \leq .001$, and for the model predicting compassion satisfaction, personal distress was significant with $\beta = -.353$, $p < .001$.

However, by step 4 in the hierarchical models for each dependent variable (when mindfulness and emotional separation were included, as discussed above under research questions 1, 2, and 3) personal distress remained a significant predictor only for compassion satisfaction, and even then its predictive power was significantly weakened.

In each model, personal distress was reduced with the addition of mindfulness, and further reduced when emotional separation was added. For both compassion fatigue and burnout, personal distress became insignificant in the final step of each model.

Variables are thought to function as mediators when they “account for the relation between the predictor and the criterion [dependent] variables...and speak to how and why such effects occur” (Baron & Kenny, 1986, p. 1176). The results of the hierarchical regressions seemed to suggest the possibility of a mediation effect by mindfulness and emotional separation on the relationship between personal distress with compassion satisfaction, burnout, and compassion fatigue.

According to Preacher and Leonardelli (2006), mediation occurs when one variable carries the influence of another independent variable to a dependent variable. There are four requirements for mediation to be established: (1) the independent variable must be significantly related to the mediator;(2) the independent variable, without the mediator, must be significantly related to the dependent variable; (3) The mediator significantly affects the dependent variable; and (4) the influence of the independent variable on the dependent variable must be reduced when the mediator is added to the model (Baron & Kenny, 1986; Preacher & Leonardelli, 2006).

Given the results of the hierarchical regression analyses, in which personal distress was a moderate predictor of each dependent variable in the absence of mindfulness and emotional separation, tests for mediation were indicated to test whether mindfulness and emotional separation mediated the relationship between personal distress and the dependent variables.

Compassion fatigue. A series of regression analyses were run to test whether the four requirements mentioned above for the presence of mediation were met. A regression analysis was performed with personal distress (the independent variable) predicting mindfulness (the first proposed mediator), and was significant ($R^2 = .221, p \leq .001$.) The second regression analysis testing the mediation model included the independent variable (personal distress) predicting the dependent variable (compassion fatigue), and was significant ($R^2 = .133, p \leq .001$). Finally, a third regression was run with the independent variable (personal distress) and the mediator (mindfulness) predicting compassion fatigue; the overall model was significant ($R^2 = .215, p \leq .001$) and the mediator (mindfulness) significantly predicted compassion fatigue. ($\beta = -.333, p \leq .001$) The fourth criteria, that influence of the independent variable (personal distress) on the dependent variable (compassion fatigue) is reduced when the mediator (mindfulness) is included, was also met, with the standardized Beta reduced from .364 to .201.

An online calculator was used to perform the Sobel test for mediation (Preacher & Leonardelli, 2006). The calculator uses the unstandardized regression coefficients for the association between the independent variable and the mediator, (a); the unstandardized coefficient for the association between the mediator and the dependent variable (b), controlling for the independent variable; and finally the standard error of both of these coefficients. The calculator performs three versions of mediation tests, the Sobel, Aroian, and Goodman tests for significance of mediation. Results of the three tests are similar, and in this study the Sobel test statistics are reported as the Sobel test generally is considered to be a very conservative measure of mediation (Kenny, 2009). The Sobel test was significant at the $p \geq .001$ level, indicating that mindfulness partially mediates

the relationship between personal distress and compassion fatigue (see Table 24, below). Sobel tests were also run for emotional separation as a mediator of the relationship between personal distress and compassion fatigue, with results also showing a significant mediation relationship at the $p \leq .001$ level. The relationship between personal distress and compassion fatigue is fully mediated by mindfulness and emotional separation.

Burnout and compassion satisfaction. The same Sobel calculations were completed for mindfulness and emotional separation as mediators for the relationships between personal distress and burnout, and personal distress and compassion satisfaction. In each case, mindfulness and emotional separation were shown to significantly mediate the relationship between personal distress and the dependent variables (burnout, and compassion satisfaction). See Table 24, below.

These results of the mediation tests indicate that mindfulness and emotional separation do mediate the effect of personal distress on all three of the dependent variables in this study, compassion fatigue, burnout, and compassion satisfaction. For both compassion fatigue and burnout, the effect of personal distress was fully mediated by the effects of mindfulness and emotional separation, while for compassion satisfaction, there was partial mediation.

Table 24

Mediation of Relationship of Personal Distress with Compassion Fatigue, Burnout, and Compassion Satisfaction by Mindfulness and Emotional Separation

DV	Mediator and IV	<i>a</i>	SE ^a	<i>b</i>	SE ^b	<i>Sobel (p)</i>
Compassion fatigue	Mediator-M IV-PD	-1.956	.295	-.127	.033	3.328 p < .001
Compassion fatigue	Mediator-ES IV-PD	-.429	.077	-.871	.111	4.543 p < .001
Burnout	Mediator-M IV-PD	-1.956	.295	-.153	.027	4.308 p < .001
Burnout	Mediator-ES IV-PD	-.429	.077	-.717	.099	4.416 p = .001
Compassion satisfaction	Mediator-M IV-PD	-1.956	.295	.134	.030	--3.705 p < .001
Compassion satisfaction	Mediator-ES IV-PD	-.429	.077	.376	.116	-2.802 p < .005

DV = Dependent variable; IV = Independent variable; *a* = unstandardized regression coefficient of IV & mediator; SE^a = standard error of *a*; *b* = unstandardized regression coefficient of mediator & DV, controlling for IV; SE^b = Standard error of *b*; *Sobel (p)* = Sobel test statistic and *p* value

Moderation of empathic concern on compassion satisfaction by mindfulness and emotional separation. In the hierarchical regression model predicting compassion satisfaction, empathic concern was not a significant predictor in the models before mindfulness and emotional separation were added. Empathic concern became significant with the addition of mindfulness, and its predictive power increased further with the addition of emotional separation. When the direction and/ or strength of relationship between an independent variable and a dependent variable is affected by the presence of another variable, (influencing *when* certain effects will occur) moderation is said to occur (Baron & Kenney, 1986).

Since empathic concern only became significant as a predictor of compassion satisfaction when mindfulness and then emotional separation were included, tests for a

moderation effect were conducted. Relevant variables were centered, and interaction terms (*empathic concern x mindfulness*) and (*empathic concern x emotional separation*), were created using centered variables. An hierarchical regression was run, with block 1 containing only the control variables, block 2 adding the empathy subscales (with the empathic concern variable centered), block 3 adding mindfulness (centered), and model 4 bringing in emotional separation (centered). Finally, block 5 included the interaction term (*empathic concern x mindfulness*), and block 6 added (*empathic concern x emotional separation*). Despite a slight increase in R^2 (from .329 to .343), neither of the interaction terms showed significant *Betas*, suggesting that there was not a statistically significant moderating effect on the relationship between empathic concern and compassion satisfaction by either mindfulness or emotional separation. It is worth noting that the (*empathic concern x emotional separation*) interaction term came close to significance, ($\beta = -.144$, $p = .077$).

These analyses indicated no evidence of a statistically significant moderating effect. The increase in predictive power of empathic concern to the point of becoming significant with the inclusion of mindfulness and emotional separation may have been an anomaly. Or, it is possible, given the significant correlation between emotional separation and empathic concern in bivariate analyses, and a moderation effect ($\beta = -.144$, $p = .077$) which approached significance, a larger sample size with greater power might find that there is a moderating effect between emotional separation and empathic concern.

In response to research question 4, both mindfulness and emotional separation were found to mediate the relationship between one of the empathy subscales, personal

distress, and all three of the dependent variables. There was no evidence of a significant moderating effect on empathic concern.

Relationships between mindfulness and emotional separation. Research question 5 asks: What is the relationship between *emotional separation* and *mindfulness*? Does emotional separation mediate the relationship between mindfulness and the dependent variables?

Mediation of effect of mindfulness on the dependent variables by emotional separation. Though mindfulness was shown to be a significant predictor in all three of the hierarchical regression models described earlier when emotional separation was not included in the model, the effect of mindfulness on each of the dependent variables was reduced when the emotional separation variable was added in step 4, and in the case of compassion fatigue, mindfulness became insignificant. To further examine this phenomenon, tests for mediation were completed, exploring whether emotional separation mediated the relationship between mindfulness and each of the dependent variables (compassion fatigue, burnout and compassion satisfaction). The same on-line Sobel calculator was used for the mediation tests (Preacher & Leonardelli, 2006). All controls and four empathy subscales were included in the regression analyses exploring the mediation effect. As shown in Table 25, below, emotional separation significantly mediated the relationship between mindfulness and all three dependent variables. With both burnout and compassion satisfaction, this was a partial mediation, but with compassion fatigue, emotional separation fully mediated the relationship between mindfulness and compassion fatigue.

Table 25

Mediation of Relationship of Mindfulness with Compassion Fatigue, Burnout, and Compassion Satisfaction by Emotional Separation

DV	Mediator and IV	<i>a</i>	SE ^a	<i>b</i>	SE ^b	<i>Sobel (p)</i>
Compassion fatigue	Mediator-ES IV-M	.127	.019	-.792	.131	-4.618 p < .001
Burnout	Mediator-ES IV-M	.127	.019	-.591	.114	-4.096 p < .001
Compassion satisfaction	Mediator-ES IV-M	.127	.019	.263	.131	1.923 p < .05

DV = Dependent variable; IV = Independent variable; *a* = unstandardized regression coefficient of IV & mediator; SE^a = standard error of *a*; *b* = unstandardized regression coefficient of mediator & DV, controlling for IV; SE^b = Standard error of *b*; *Sobel (p)* = Sobel test statistic and *p* value

In response to research question 5, emotional separation does mediate the relationship between mindfulness and all three of the dependent variables. For both burnout and compassion satisfaction, emotional separation partially mediated the influence of mindfulness, but for compassion fatigue there was full mediation.

Mindfulness subscales. The total mindfulness score was the variable representing the mindfulness construct in the regression analyses used to address research questions 1-5 as described above. However, Baer and colleagues (2006) suggested that an examination of individual mindfulness subscales may inform our understanding of which components of the multidimensional mindfulness construct may best relate to other constructs. Consequentially, a series of 15 hierarchical regressions were completed with each of the five individual mindfulness scale scores entered (instead of the total mindfulness scale score) as a predictor of compassion fatigue, burnout, and compassion satisfaction. (Control variables and empathy subscales were included in the equations.) The $R^2\Delta$ at the inclusion of the particular mindfulness subscale in each regression model, β , and *p* values are shown below in table 26.

Table 26

Mindfulness Subscales Predicting Dependent Variables

	Compassion Fatigue			Burnout			Compassion Satisfaction		
	$R^2 \Delta$	β	p	$R^2 \Delta$	β	p	$R^2 \Delta$	β	p
Observe	.001	.031	.699	.023	-.168	.033	.019	.153	.053
Describe	.015	-.137	.094	.035	-.210	.009	.026	.182	.023
Actaware	.071	-.306	.000	.098	-.359	.000	.050	.257	.001
Nonjudge	.101	-.392	.000	.075	-.335	.000	.054	.284	.001
Nonreact	.038	-.220	.008	.078	-.326	.000	.048	.256	.002

The actaware and nonjudge scales predicted all three dependent variables at the $p \leq .001$ level. Nonreact predicted all three dependent variables at $p \leq .01$. The observe subscale did not significantly predict compassion fatigue, but did predict burnout ($p \leq .05$) and the association of observe with compassion satisfaction was almost significant ($p = .053$). The describe subscale significantly predicted burnout ($p \leq .01$) and compassion satisfaction ($p \leq .05$) but was not significantly associated with compassion fatigue.

Additional Findings

While not particularly relevant to the primary focus of this dissertation, there were interesting findings regarding relationships between one of the control variables, adult trauma history, and compassion fatigue. In addition, a variable not used in the regression equations, workplace, was examined in more detail. These additional findings will be discussed below.

Adult trauma history. As mentioned previously, adult trauma history was included both as a dummy variable, which was used in the regression analyses, and as an ordinal variable, with response options of no trauma, mild trauma, moderate trauma, and severe trauma. This variable was found to be a significant predictor of compassion fatigue in the earlier regression analyses. Post hoc tests in an analysis of variance

(ANOVA) were performed to assess differences based on severity of past trauma. The analysis indicated that respondents who indicated no experience ($M = 10.32$, $SD = 5.99$), mild experience ($M = 11.30$, $SD = 6.20$), or moderate experience ($M = 13.75$, $SD = 8.68$) with adult trauma had significantly lower scores on compassion fatigue than individuals reporting severe ($M = 16.20$, $SD = 7.15$) experiences with adult trauma ($F = 4.37$, $p \leq .01$). No additional differences were noted. (Both the line graph in Figures 9 and the boxplot in Figure 10 show relationships between severity of adult trauma and compassion fatigue scores.)

Figure 9

Relationship between Severity of Adult Trauma and Compassion Fatigue

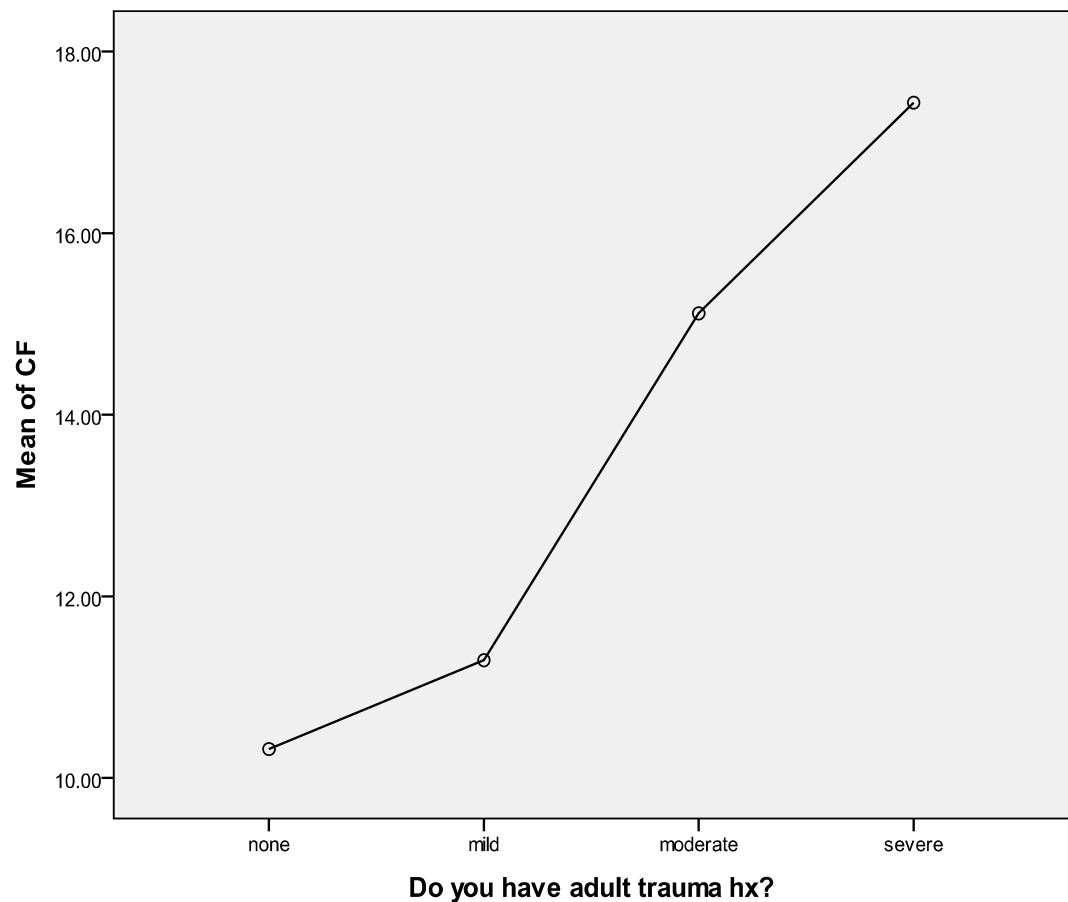
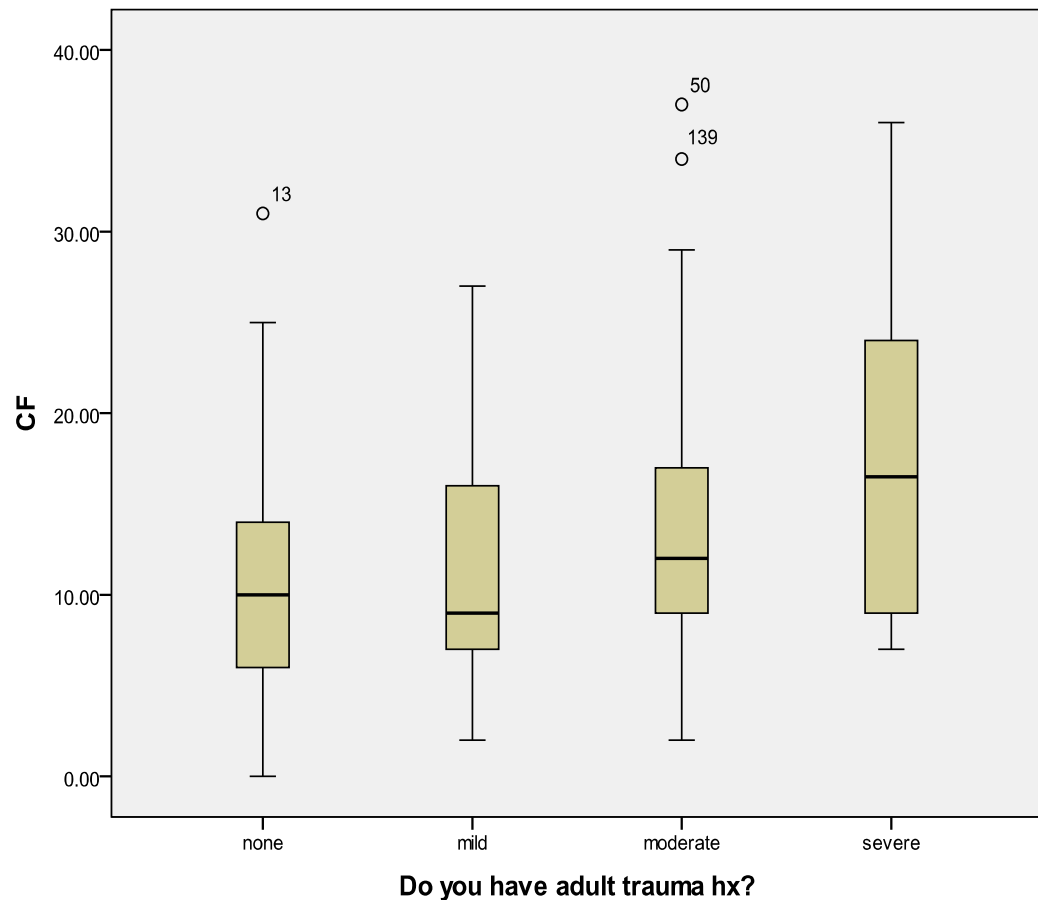


Figure 10

Boxplot Showing Relationship between Severity of Adult Trauma and Compassion Fatigue



Workplace. The workplace variable was worded in the original questionnaire in such a way that respondents could list more than one response, and when more than one choice was listed, primary / secondary workplace or full time/ part time designations were not specified. (Each choice was coded as 0 = no, 1 = yes response). Twenty-one respondents listed two different jobs.

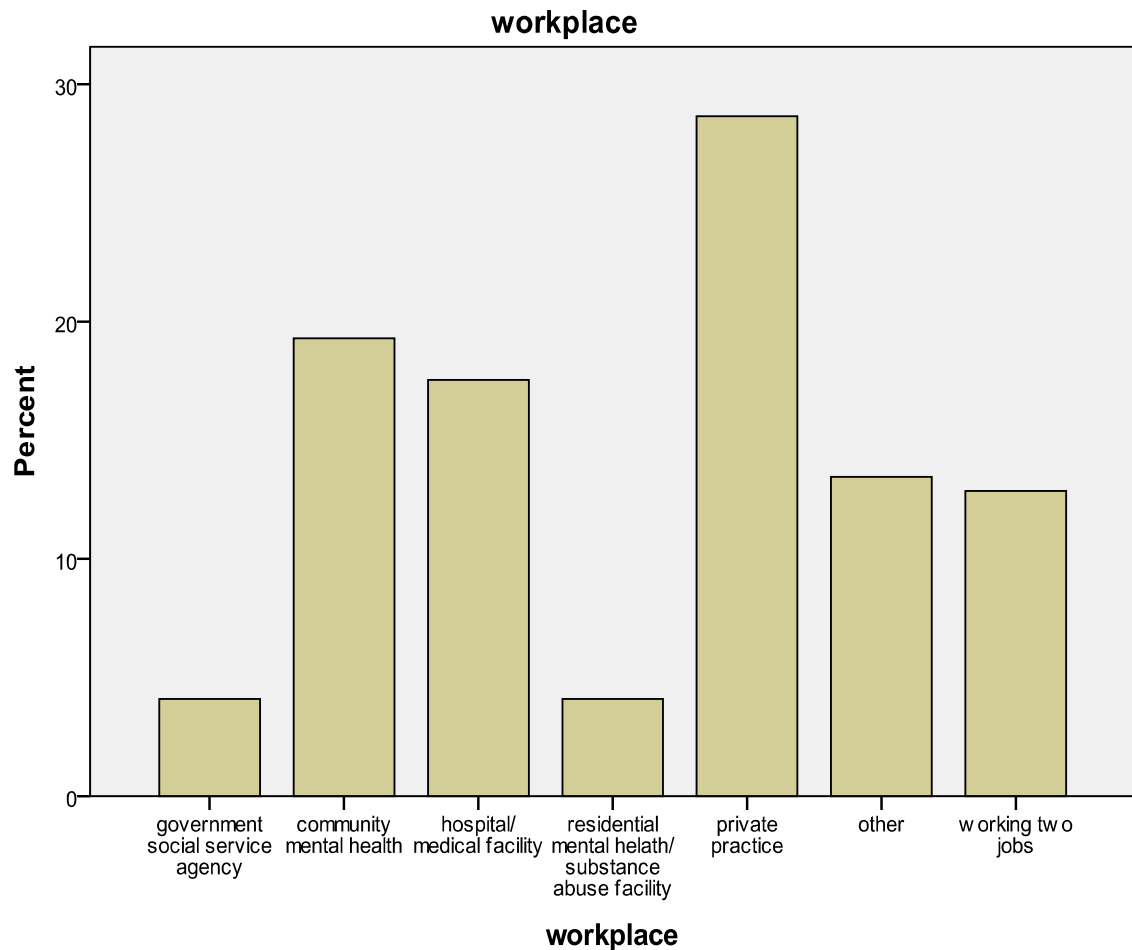
These variables were not included in the regression analyses because the categories as entered in the original dataset were not mutually exclusive, and also because the number of variables able to be analyzed in the regression equations was limited, and

workplace was not a particular focus of interest in the study. However, after the major analyses were completed, the variable was subsequently re-entered from the original surveys as a single nominal item, with 7 mutually exclusive categories as follows: (1) government social service agency, (2) community mental health, (3) hospital/ medical facility, (4) residential mental health/ substance abuse facility, (5) private practice, (6) other, and (7) working two jobs. Categories 1-6 included respondents who listed only that choice. Any respondents who listed more than one job were listed in the “two jobs” category, and not in the particular categories they specified. In this way, none of the cases was in more than one workplace category

Descriptive statistics were then run for the new workplace variable. The results showed 4.2% of the respondents worked in government social service agencies, and another 4.2% in residential mental health / substance abuse facilities. There were 12.6% of respondents in the “other” category, 12.5% in the “two jobs” category, and 18% in hospital/medical facilities. The two largest categories included community mental health agencies, where 19.8% of the respondents were employed and private practice, which included 28.7 % of the study participants (see Figure 11 below.) All but 4 of the 21 respondents who reported working two different jobs listed private practice as one of the two jobs.

Figure 11

Bar graph of workplace categories



In order to determine whether the workplace variable significantly predicted scores on the ProQOL R IV, ANOVAs were completed for the workplace variable with compassion satisfaction, burnout, and compassion fatigue.

Compassion fatigue. The ANOVA examining workplace in relation to compassion fatigue indicated that the workplace category was non significant as a predictor of compassion fatigue. However, mean differences between categories are displayed in Table 27, below, with the table organized from lowest to highest mean compassion fatigue scores on the ANOVA. Private practitioners had the lowest mean

compassion fatigue scores, while those working in community mental health and in residential mental health/ substance abuse had the highest.

Table 27

Workplace and Compassion Fatigue (lowest to highest)

CF workplace category	N	%	Mean	Standard Deviation
private practice	48	28.7%	10.00	6.53
residential mental health/ substance abuse facility	7	4.2%	10.71	3.86
hospital/ medical facility	33	19.8%	11.07	5.93
working two jobs	21	12.9%	11.76	7.01
Other	30	17.5%	12.62	7.57
community mental health	21	12.6%	13.03	8.03
government social service agency	7	4.2%	14.14	6.01
Total	167	100%	11.55	6.85

Burnout. The ANOVA examining workplace in relation to burnout was significant ($F = 2.58$ ($6, 160$), $p = .02$). Table 28 shows means and standard deviations, with the table organized from lowest to highest burnout scores on the ANOVA. Private practitioners had the lowest burnout scores, followed by those in the hospital/ medical facility and the two-job categories, with residential mental health / substance abuse having the highest mean score. To determine whether there were statistically significant differences between workplace categories, post-hoc tests (Sheffe and Bonferonni) were completed. These tests showed that the only significant difference between categories was that respondents working in community mental health ($M = 20.42$, $SD = 7.18$) had significantly higher scores on the burnout scale than did those working in private practice ($M = 15.96$, $SD = 6.09$).

Table 28

Workplace and Burnout (lowest to highest)

Burnout workplace category	N	%	Mean	Standard Deviation
private practice	48	28.7%	15.96	6.09
Hospital/ medical facility	7	4.2%	18.63	6.98
Working two jobs	33	19.8%	19.38	5.36
Other	21	12.9%	20.00	5.93
government social service agency	30	17.5%	20.71	7.25
community mental health	21	12.6%	20.42	7.18
residential mental health/ substance abuse facility	7	4.2%	22.43	4.16
Total	167	100%	18.73	6.55

Compassion satisfaction. The analysis examining the workplace variable with compassion satisfaction indicated a significant relationship between workplace and compassion satisfaction ($F = 3.90_{(6, 160)}, p = .001$). Table 29 shows means and standard deviations, with the table organized from highest compassion satisfaction scores to lowest compassion satisfaction scores on the ANOVA. As might be expected, the mean compassion satisfaction scores for those working in private practice settings were highest. This was followed by government social service agency workers. Those participants who were working two jobs ranked third, and had higher mean compassion satisfaction scores than those in the hospital/ medical facility, other, community mental health, or residential mental health / substance abuse facility workplace categories.

The post-hoc analysis indicated that respondents working in community mental health settings ($M = 37.09, SD = 7.83$) and those working in residential mental-health/ substance abuse settings ($M = 33.86, SD = 6.28$) had significantly lower scores on the compassion satisfaction scale than those in private practice ($M = 42.625, SD = 5.58$). There were no other statistically significant differences.

Table 29

Workplace and Compassion Satisfaction (highest to lowest)

CS workplace category	N	%	Mean	Standard Deviation
private practice	48	28.7%	42.63	5.58
government social service agency	7	4.2%	40.43	5.26
working two jobs	21	12.9%	39.62	5.12
hospital/ medical facility	30	17.5%	39.23	5.93
Other	21	12.6%	37.71	7.68
community mental health	33	19.8%	37.09	7.83
residential mental health/ substance abuse facility	7	4.2%	33.86	6.28
Total	167	100%	39.47	6.73

Summary

A summary of research findings, including final models predicting the three dependent variables, will be included in this section.

After examining zero-order correlations, simultaneous-entry multiple regression analyses were performed examining the relationships between a model of predictor variables including several control variables (age, female gender, years experience, child and adult trauma histories); the empathy subscales (perspective taking, fantasy, empathic concern, and personal distress); mindfulness; and emotional separation with the three dependent variables (compassion fatigue, burnout, and compassion satisfaction).

In the simultaneous entry regression model predicting compassion fatigue, adult trauma and emotional separation were the only predictors in the model that were significantly associated with compassion fatigue. For the model predicting burnout, mindfulness and emotional separation were significant predictors. For the model predicting compassion satisfaction, mindfulness was the strongest predictor, but

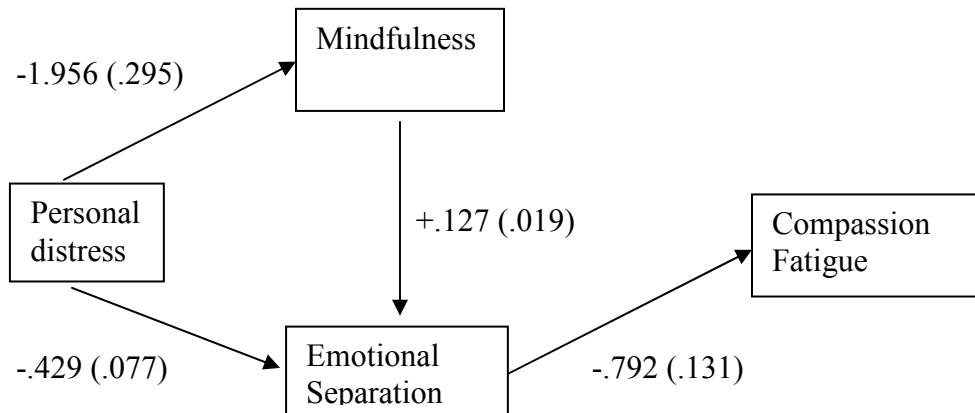
emotional separation and two of the empathy subscales, personal distress and empathic concern, were also significantly associated with compassion satisfaction.

For each simultaneous entry regression model, hierarchical regression was also completed in order to further examine the relationships between variables. These hierarchical regressions suggested a possible mediation effect of both mindfulness and emotional separation on the relationship of the empathy subscale of personal distress with all three of the dependent variables. Sobel tests verified these mediation effects. In addition, tests for mediation were completed on the effect of emotional separation on the relationship between mindfulness and each of the dependent variables. Again, the mediation tests showed that the effect of mindfulness on the dependent variables was significantly mediated by emotional separation.

Compassion fatigue. The final model predicting compassion fatigue (see Figure 12, below) shows that mindfulness, emotional separation, and personal distress all contributed to the variance in compassion fatigue scores. Emotional separation was the only key independent variable to have a direct effect on compassion fatigue, with compassion fatigue scores decreasing by .792 points for every unit increase in emotional separation. The effect of personal distress on compassion fatigue was mediated by mindfulness and by emotional separation. A one point increase in personal distress resulted in a 1.956 point decrease in mindfulness scores, and a .429 decrease in emotional separation scores. The effect of mindfulness on compassion fatigue was also indirect and occurred through the shared variance it had with emotional separation. For every unit increase on mindfulness scores, emotional separation was decreased by .127 points.

Figure 12

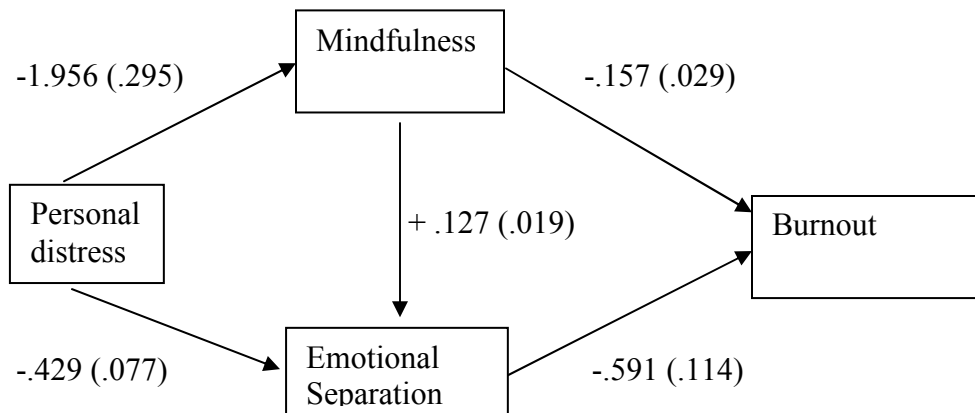
Prediction of compassion fatigue by mindfulness, personal distress, and emotional separation



Burnout. Figure 13 shows that mindfulness, emotional separation, and personal distress all contributed to the variance in burnout scores. Both mindfulness and emotional separation demonstrated direct, distinct effects on burnout scores, with burnout scores decreasing by .591 points for every unit increase in emotional separation and .157 for every unit increase in mindfulness. In addition to the direct effect of mindfulness on burnout scores, there was also an indirect effect which occurred through the association that mindfulness had with emotional separation. For every unit increase on mindfulness scores, emotional separation scores were decreased by .127 points. Finally, the effect of personal distress on burnout was again fully mediated by mindfulness and by emotional separation. A one unit increase in personal distress resulted in a 1.956 point decrease in mindfulness, and a .429 decrease in emotional separation.

Figure 13

Prediction of Burnout by Mindfulness, Personal Distress, and Emotional Separation



Compassion Satisfaction. Figure 14 illustrates the final model predicting compassion satisfaction. Mindfulness, emotional separation, personal distress and empathic concern all contributed directly to the variance in compassion satisfaction scores. Compassion satisfaction scores are increased by .100 for every unit increase in mindfulness scores, .263 for every unit increase in emotional separation, and .329 for every unit increase in empathic concern. Compassion satisfaction scores are decreased by .229 for every unit increase in personal distress.

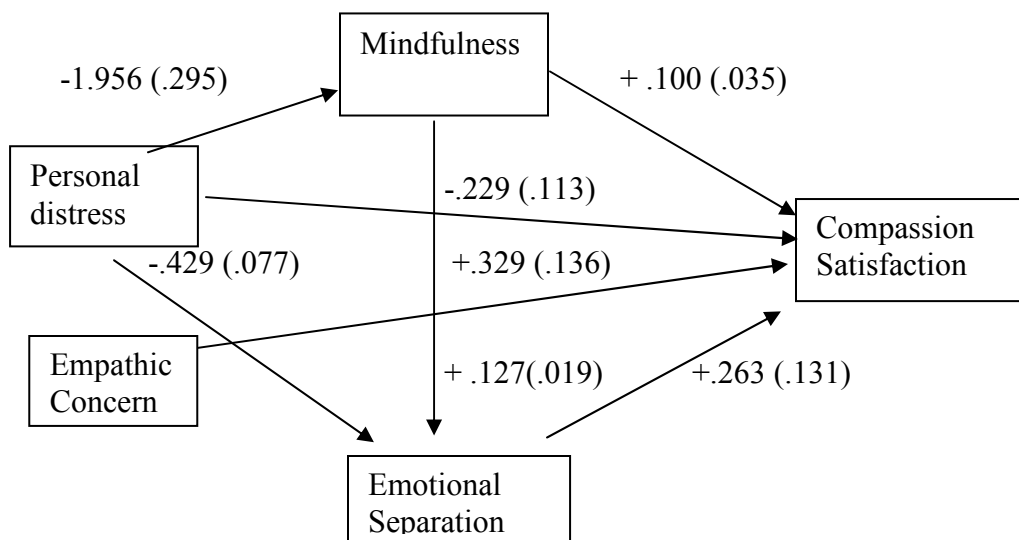
In addition, both mindfulness and personal distress also had indirect effects on compassion satisfaction. Higher personal distress scores predicted lower mindfulness and emotional separation scores, with almost a half-point drop in emotional separation and almost a 2-pt. drop in mindfulness for each unit increase in personal distress. Finally, a one-unit increase in mindfulness resulted in an increase of .127 in emotional separation scores.

The hierarchical regression also suggested a possible moderation effect of mindfulness and emotional separation on the relationship between empathic concern and

compassion satisfaction, as empathic concern only became a significant predictor of compassion satisfaction when mindfulness and emotional separation were included in the model. Interaction terms were created with centered variables, and an additional hierarchical regression analyses was run with the two interaction terms (*empathic concern x mindfulness*, and *empathic concern x emotional separation*) entered in steps 5 and 6. However, the analyses did not indicate significant moderation, although the interaction term of *empathic concern x emotional separation* came close to statistical significance ($B = -.144, p = .077$) as a predictor of compassion satisfaction

Figure 14

Prediction of Compassion Satisfaction by Mindfulness, Personal Distress, Empathic Concern, and Emotional Separation



Mindfulness subscales. While information regarding the individual mindfulness subscales is not used to answer the primary research questions, these findings may be helpful in attempting to explain the differential relationships mindfulness has with the dependent variables. Preliminary exploratory analyses suggest that while the actaware, nonjudge, and nonreact subscales predict all three of the dependent variables, the observe

and describe subscales are predictive only of burnout and compassion satisfaction, but not compassion fatigue.

Adult trauma. The adult trauma variable, though not of primary interest in this study, was found to be predictive of compassion fatigue. To examine this, an analysis of variance (ANOVA) was completed, using the ordinal adult trauma variable. The model was significant, with respondents who indicated none, mild or moderate adult trauma having significantly lower scores on compassion fatigue than individuals reporting severe experiences of adult trauma.

Workplace. Finally, the workplace variable was re-entered into mutually exclusive categories and was analyzed using ANOVA. Workplace was a significant predictor of both burnout and compassion satisfaction, though not compassion fatigue. Post-hoc tests showed respondents working in community mental health and residential mental health/ substance abuse settings had significantly lower scores on compassion satisfaction than did those working in private practice. Respondents working in community mental health also had significantly higher burnout scores than did private practitioners.

Chapter Five

Discussion

This exploratory study was the first investigation to examine the relationship of mindfulness with compassion fatigue and compassion satisfaction, and the first to examine the relationship of mindfulness with burnout specifically among social workers. While mindfulness has received a great deal of attention in the last several years as a promising intervention with clinical populations, the potential application of mindfulness as a clinical training tool is just beginning to emerge.

In addition, the study examined concepts of empathy and emotional separation in relation to professional quality of life. These relationships have received surprisingly little empirical examination, but this investigation does build on the limited empirical evidence regarding these variables as possible predictors of secondary traumatic stress (Badger et al., 2008) and burnout (Corcoran, 1989; Miller et al., 1995).

In this chapter, I will review and discuss results of the simultaneous entry and hierarchical regression analyses examining the research questions related to the predictive capacity of empathy, mindfulness, and emotional separation on each of the dependent variables, compassion fatigue, burnout, and compassion satisfaction. I will then explore explanations for the differential effects of mindfulness; that is, why mindfulness might directly effect scores on burnout and compassion satisfaction while not directly affecting compassion fatigue scores. I will discuss each of the key independent variables, including emotional separation, mindfulness, and empathy, and relate to prior discussion of these concepts. Though not as relevant to the particular focus of this dissertation, I will briefly discuss results relating to the relationship of the adult trauma history variable

with compassion fatigue, and the workplace variable with burnout and compassion satisfaction. Finally, limitations of the research and implications for practice and for future research studies will be examined.

Compassion Fatigue: Review of Results and Discussion

Compassion fatigue is considered a “natural consequence” (Figley, 2002b) of being engaged in helping work with persons who are suffering. The clinician’s level of empathic engagement has consistently been suggested as a path of vulnerability for compassion fatigue (Decety & Lamm, 2006; Figley, 2002a; Rothschild, 2006). Despite the conceptual coherence of this assumption, there has been little empirical evidence linking empathy with secondary trauma. Badger and colleagues (2008), for example, did not find empathy to be a significant predictor of secondary trauma in their study of hospital trauma workers. Their study, however, used a summed score on the Interpersonal Reactivity Index (Davis, 1983) and consequently may not have isolated some of the subscale effects described in this study.

The model originally proposed in this study (see figure 2, p. 111) suggested that compassion fatigue would be significantly predicted by empathy, but that the effect of empathy might be mediated by another of the independent variables. The individual subscales of the Interpersonal Reactivity Index (Davis, 1983) were used as independent variables in order to allow for a more nuanced examination of particular aspects of the multidimensional empathy construct, with the assumption that doing so might lead to differing results than studies which had used a less differentiated measure of empathy.

The model also proposed that mindfulness and emotional separation would predict compassion fatigue. Since some of the proposed effects of mindfulness seem to

relate conceptually to the capacity for emotional differentiation, it was assumed that there might be overlapping effects on compassion fatigue from mindfulness and emotional separation

In bivariate correlations, mindfulness and emotional separation had both demonstrated moderately strong positive correlations with compassion fatigue. Among the empathy subscales, personal distress was moderately positively correlated and fantasy was weakly positively correlated with compassion fatigue. Although the correlations for perspective taking and empathic concern with compassion fatigue were not significant, perspective taking was negatively correlated while empathic concern was positively correlated. These bivariate relationships supported the assumptions of the proposed model that empathy (at least some aspects of empathy), mindfulness, and emotional separation might all be predictors of compassion fatigue.

The simultaneous entry OLS regression showed that emotional separation was the only key predictor variable significantly associated with variation in levels of compassion fatigue. Respondents with higher levels of emotional separation were at lower risk of compassion fatigue. Despite significant bivariate correlations between mindfulness and two of the empathy subscales with compassion fatigue, none of these variables made a significant contribution to the simultaneous regression model. These findings were surprising given both the bivariate relationships between these variables and the conceptual understanding of how mindfulness and empathy (and in particular the personal distress aspect of empathy) might influence a practitioner's response to the traumatic experiences of clients.

Consequently, an hierarchical regression was completed, which allowed for an examination of the effect of each block of variables as they were added. The control variables were entered in step 1 of the regression. All four empathy subscales were entered in step 2. Steps 3 and 4 added mindfulness and emotional separation, respectively.

Step 2 in the hierarchical model showed the effect of the 4 empathy subscales (in addition to the control variables in step 1). The only empathy subscale that was a significant predictor of compassion fatigue (in step 2, before mindfulness and emotional separation were added) was personal distress. Step 3 of the hierarchical model added mindfulness, which did significantly predict compassion fatigue. In this step, the effect of personal distress was reduced, and then with the addition of emotional separation in step 4, the effect of personal distress on compassion fatigue became insignificant. The inclusion of emotional separation in step 4 of the hierarchical model also resulted in mindfulness becoming non-significant as a predictor of compassion fatigue. Sobel tests for mediation showed that mindfulness and emotional separation mediate the effect of personal distress on compassion fatigue, and that emotional separation mediates the effect of mindfulness on compassion fatigue.

Compassion fatigue and emotional separation. Compassion fatigue, as defined in this study, incorporates secondary trauma, and the results of this study show that higher emotional separation scores are associated with lower compassion fatigue scores. Badger and colleagues (2008) similarly found a negative relationship between emotional separation and secondary stress in their study of emotional separation and secondary trauma among hospital social workers. It seems likely that the ability of clinicians to step

back from the experience of their clients' pain and retain awareness of themselves as separate might allow them to remain in their professional role more steadily, with an increased ability to focus on the goals and tasks to be accomplished and with less likelihood of becoming over-identified with the client, or immersed in the emotional aspects of the client's experience. Consequently, the finding that emotional separation was a significant predictor of compassion fatigue was expected.

The findings regarding the relationship of mindfulness with compassion fatigue and of the relationship between the personal distress subscale of the empathy construct with compassion fatigue, however, are new and will be discussed in more detail below.

Compassion fatigue and mindfulness. Mindfulness had not been previously studied as a predictor of compassion fatigue. In this study, the simultaneous entry regression model predicting compassion fatigue did not find mindfulness to be a significant predictor of compassion fatigue. This was an unexpected finding given the theoretical associations of mindfulness with attentional control, emotional regulation, and general well-being (Beddow & Murphy, 2004; Carmody et al, 2009; Galantino et al, 2005; Moore & Malinowski, 2009; Shapiro et al., 1998). Several empirical studies had also suggested that mindfulness had a positive effect on stress (Krasner et al., 2009; MacKenzie et al, 2006) and on tendencies toward rumination (Coffey & Hartman, 2008; Jain et al, 2007), and one study had indicated prophylactic effects of mindfulness for persons entering potentially stressful work situations (Jha et al, 2010).

When the data were examined more closely with hierarchical regressions, however, mindfulness did significantly predict compassion fatigue when emotional separation was not included in the model, but became non-significant as a predictor when

emotional separation was included. Subsequent tests for mediation showed that emotional separation completely mediated the effect of mindfulness on compassion fatigue.

Since part of the effect of mindfulness may be to assist with decentering from immediate experience and moving into an objective observer stance, I expected that mindfulness and emotional separation would share some influence on compassion fatigue. However, some of the proposed effects of mindfulness seem to be conceptually different from the aspect of mindfulness relating to emotional separation, including improved attentional focus and flexibility (Moore & Malinowski, 2009; Slagter et al., 2007); greater general well-being and improved relations with others (Brown & Ryan, 2003), increased spirituality (Shapiro et al., 1998); and greater relaxation and life satisfaction (Mackenzie et al., 2006). Consequently, it was surprising that there were no distinct effects.

Since the regression models predicting both burnout and compassion satisfaction did show direct effects of mindfulness distinct from the shared variance with emotional separation, I will discuss these differential effects of mindfulness all together (p. 172-176) after the review of the remaining dependent variables.

Compassion fatigue and empathy. Empathy is generally thought to be a combination of several related constructs rather than a one-dimensional construct. The measure used in this study, the Interpersonal Reactivity Index (Davis, 1983), differentiates between affective and cognitive aspects of empathy. Three of the subscales, fantasy, empathic concern, and personal distress, relate more to affective

aspects of the empathy construct, while the perspective taking subscale is more associated with cognitive aspects of empathy (Davis, 1983).

In the simultaneous entry regression predicting burnout in this study, none of the empathy subscales significantly predicted compassion fatigue. In light of current understandings of empathic processes, this finding was surprising, as the degree of affective arousal an observer experiences when witnessing the pain of others has been associated with aversive responses and personal distress (Decety & Lamm, 2006; Decety & Lamm, 2009). Personal distress is an aversive reaction to another's pain that is self-focused rather than other-directed and is associated with withdrawal or avoidance rather than an urge to help the suffering person (Davis, 1983; Decety & Lamm, 2009).

Without sufficient and successful affective regulation, the perception of others in pain "including the associated autonomic and somatic responses" would likely lead to over-arousal and an experience of personal distress (Decety & Jackson, 2004, p. 87). However, persons who are able to modulate their vicarious experience of other's distress may be able to maintain an optimal level of emotional arousal which allows for sufficient empathic engagement but is not "so aversive and physiologically arousing that it promotes a self-focus" (Eisenberg & Eggum, 2009, p. 75).

In one relevant study, participants were asked to view pictures of people in painful situations, and imagine themselves or to imagine another person in the situation. Functional magnetic resonance imaging (fMRI) results showed that neural activation of pain processing areas of the brain occurred in both scenarios, but the imagine-self perspective resulted in higher pain ratings, and higher ratings of personal distress, than did the imagine-other perspective (Jackson, Brunet, Meltzoff, & Decety, 2006).

Similarly, Lamm, Batson, and Decety (2007) demonstrated that when an observer projects herself into a painful situation, empathic concern is lessened, while when the observer instead imagines another person in the situation, empathic concern is increased. These results led these authors to suggest the importance of strong self awareness, executive control and emotional regulation skills in order to intentionally limit the self-perspective, inhibit personal distress, and allow for an empathic regard for the other rather than a reactive urge to turn away and avoid aversive arousal.

Despite the simultaneous entry regression analysis results in this current study showing no effect of the empathy subscales on compassion fatigue, when the data regarding compassion fatigue were examined more closely with hierarchical regression, there were effects. Specifically, the analysis showed that before adding mindfulness and emotional separation to the regression model, the personal distress subscale of the empathy construct was a moderate predictor of compassion fatigue, with a half-point increase in compassion fatigue scores for every one-point increase in personal distress. Mediation analyses showed that while the personal distress subscale did significantly predict compassion fatigue, the influence of personal distress on compassion fatigue was fully mediated by mindfulness and emotional separation.

These results make sense both empirically and conceptually. Baron and Kenny describe mediators (at least within research oriented toward social psychology) as representing “properties of the person that transform the predictor or input variable in some way” (1986, p. 1178). Mindfulness (thought to influence both attentional and emotional regulation) and emotional separation (conceptually associated with the ability to differentiate self-other perspectives and previously associated empirically with lower

secondary trauma) both had strong negative correlations with personal distress in bivariate analyses. Conceptually, this finding is consistent with the previous discussion (Eisenberg & Eggum, 2009) regarding the need for intentional modulation of emotion and attention in order to avoid over-arousal and consequent personal distress, and with the conceptualization of the process of empathy described above by Jackson et al. (2006) and Lamm et al. (2007), in which the ability to be in a separate, differentiated observer position allowed for empathic engagement while minimizing aversive responses.

For example, a clinician who is working with a client experiencing intra-familial violence may hear repeated stories of cruel and traumatic events. Figley (1995a, b) discusses compassion fatigue as a natural consequence of hearing the trauma narratives of clients, and calls it the “cost of caring”. The natural response of the clinician in this example, then, might be to internally mirror the experience of the victim to whom she is listening (the “embodied simulation” or “primal empathy” described by Cozolino, 2006). Without sufficient emotional differentiation and affect regulation, the clinician may have trouble keeping the client’s experience separate, and may herself experience personal distress as a result of this exposure. Since we know that personal distress is associated with avoidance of reminders of the trauma and a reduced urge to help those who are suffering (Davis, 1983; Singer & Lamm, 2009), this could translate in practice into the clinician avoiding the client or giving reduced attention to the case, having a weakened therapeutic relationship with the client who is a reminder of the trauma, or experiencing tacit biases which might affect efforts to seek out and offer alternatives to the client. On the other hand, if the clinician has higher levels of mindfulness (associated with the ability to step back and take a meta-cognitive stance regarding the experience of the

client's narrative) and is able to maintain a high degree of emotional differentiation, she may be more likely to recognize her own emotional distress for what it is and intentionally modulate these reactions. In this case, the clinician will be more able to retain a sense of herself as a professional helper with a particular role and with particular skills and resources to offer. Both the clinician and the client stand to benefit from the "transformative" (Baron & Kenny, 1986) effects of mindfulness and emotional separation on the initial experience of personal distress.

Burnout: Review of Results and Discussion

Burnout is conceptually distinct from compassion fatigue; however, the presence of compassion fatigue is thought to increase risk for burnout (Stamm, 2005). In this study, burnout is defined as those symptoms, including feelings of hopelessness, that are related to difficulties in dealing with work or managing one's job as a helper effectively. Burnout is often related to institutional or workplace variables (Stamm, 2005). As mentioned in Chapter 2, Figley (1995b) says that the most significant risk factor for burnout is the sense that the resources of the clinician are insufficient to help the client.

The model proposed in this study (Figure 2, p. 111) suggested that burnout would be significantly predicted by empathy subscales, and by mindfulness and emotional separation. The four empathy subscales, mindfulness, and emotional separation were independent variables proposed to predict burnout scores. Again, the model suggested that the effects of empathy might be mediated by mindfulness and emotional separation, and that there might be overlapping effects of mindfulness and emotional separation.

Bivariate correlations supported the proposed model, with mindfulness and emotional separation both demonstrating moderately strong negative correlations with

burnout. Among the empathy subscales, personal distress was moderately correlated and fantasy was weakly correlated with higher burnout scores. Perspective taking was negatively but weakly correlated with burnout scores, and the correlation between empathic concern and burnout was not significant.

Simultaneous entry OLS regression showed that higher scores on both emotional separation and mindfulness significantly predicted lower burnout scores. Despite significant bivariate correlations between three of the empathy subscales with burnout, none of these variables made a significant contribution to the simultaneous regression model. Again, these findings were surprising given both the correlational relationships between these variables and the conceptual understanding of how empathy might influence a practitioner's responses to the work of helping clients.

Consequently, an hierarchical regression was completed with burnout as the dependent variable, with the same model logic and structure as previously used with compassion fatigue. Step 2 in the hierarchical model showed the predictive effect of the 4 empathy subscales in addition to the control variables, which had been entered in step 1. The only empathy subscale that was a significant predictor of burnout, again, was personal distress. Step 3 of the hierarchical model added mindfulness, which significantly predicted burnout scores. In this step, the effect of personal distress was reduced, which again suggested that mindfulness may mediate the influence of personal distress on burnout. This was verified with mediation tests.

The inclusion of emotional separation in step 4 of the hierarchical model further reduced the effect of personal distress on burnout to the point that it was no longer a significant predictor, and Sobel tests again showed that emotional separation mediated

the effect of personal distress on burnout. While mindfulness remained a significant predictor of burnout scores even when emotional separation was included, the strength of the direct relationship of mindfulness with burnout was reduced with the addition of emotional separation in the model, and tests for mediation showed that the influence of mindfulness on burnout was partially carried through the emotional separation variable. Though emotional separation was the strongest predictor of burnout in the model, mindfulness had both direct and indirect influence on burnout as well.

Burnout and emotional separation. Emotional separation had been previously associated with lower burnout scores (Corcoran, 1989) and this study supported this relationship. Burnout and compassion fatigue are somewhat different conceptually. While compassion fatigue incorporates the element of secondary trauma and includes a fear response (Stamm, 2009; Figley 2002a, 2002b), burnout relates more to general discouragement and exhaustion, and a sense of being unable to effectively help suffering clients (Figley, 1995b). While compassion fatigue can occur rather quickly in response to particular traumatic exposure, burnout develops over a longer period of time and occurs not from one or a few distressing experiences, but from an accrual of effect over a period of time (Stamm, 2005). Burnout is also thought to be more persistent, and less likely to remit quickly. Despite these differences, both Stamm (2005) and Figley 2002a) suggest the concepts are related and may feed into each other, with the presence of compassion fatigue contributing to an increased risk of burnout.

Therefore, it is possible that the effect of emotional separation on burnout may have occurred, at least partly, through its effect on compassion fatigue and the portion of the burnout construct that is influenced by the clinician's experience of compassion

fatigue. Alternately, it is possible that there are distinct ways that maintaining a clear, separate identity influenced other aspects of burnout. For example, personal effectiveness may be greater when the practitioner is able to maintain a separate identity and a clearer focus on tasks to be accomplished. If higher levels of emotional separation increases the practitioner's ability to act effectively, it might consequently reduce the sense that "the resources of the helper are insufficient to meet the needs of the clients" (Figley, 1995b) and therefore result in lower burnout scores.

Burnout and mindfulness. The empirical results from this study suggest that though there are overlapping effects on burnout scores from mindfulness and emotional separation, there are also separate, distinct effects. Burnout is a much broader concept than compassion fatigue, with a course that develops over time and that may be influenced by multiple variables. It makes sense that aspects of mindfulness distinct from those which were mediated by emotional separation might influence burnout scores. Again, these differential effects will be discussed below, following the discussion of mindfulness and compassion satisfaction (p. 172-176).

Burnout and empathy. Much of the discussion regarding the personal distress subscale of the empathy construct in relation to compassion fatigue (above) applies as well to personal distress and burnout. Many authors have expressed concern about the risk for disengagement and reduced clinical effectiveness when clinicians are experiencing symptoms of burnout (Conrad & Kellar-Guenther, 2006; Huggard, 2003; Killian, 2008; Radey & Figley, 2007; Valent, 2002). Also, the arguments regarding the association of personal distress, in particular, with avoidance and reduced helping behavior outlined above (in the section on compassion fatigue and empathy) are

consistent with these concerns. Similarly, it was not surprising that the effect of personal distress on burnout scores was mediated by mindfulness and emotional separation, consistent with arguments given previously regarding the potential protective effects of both constructs.

Given the conceptual importance of the idea of perspective taking and the significant negative bivariate correlations between the perspective taking empathy subscale and burnout, and between perspective taking and personal distress, it was surprising that perspective taking was not significantly related to burnout in the multivariate analysis. It certainly makes sense that the ability to comprehend the perspective of others might contribute to an improved differentiation of self from other (and consequently reduced personal distress). While this study does not examine interrelationships between empathy subscales, it seems likely that aspects of empathy may influence each other. Despite the general assertion (Davis, 1983) that the fantasy, empathic concern, and personal distress subscales of the Interpersonal Reactivity Index relate more to affective aspects of the empathy construct while the perspective taking subscale measures more cognitive aspects of the construct, cognitive and emotional aspects of empathy may not actually be so clear-cut (Davis, 1996) and may be mutually influencing (Singer & Lamm, 2009). In fact, research in social neuroscience suggests that a number of factors (in addition to emotional responses to the nature or intensity of the perceived pain) may influence empathic responses, including cognitive factors such as attention, ability to shift perspective, and cognitive appraisals of the situation (Singer & Lamm, 2009).

For example, a clinician who is able to intentionally shift into--*and out of*—the perspective of the client may have the advantage of being able to understand the client's point of view while being less likely to be overwhelmed by it. That is, the clinician in theory might feel *less* personal distress and *more* empathic concern if she is able to intentionally shift perspectives. Despite the non-significant findings regarding perspective taking as a predictor of burnout in the regression analyses in this study, the conceptual weight of this aspect of the empathy construct suggests caution in discarding this variable as a possible predictor of professional quality of life. The perspective taking aspect of the empathy construct should be examined further in future studies; specifically, studies which are able to differentiate reciprocal feedback loops among empathy subscales.

Compassion Satisfaction: Review of Results and Discussion

Unlike compassion fatigue and burnout, which both refer to negative states thought to come about as a result of doing helping work, compassion satisfaction refers to positive affective responses to the work of helping others (Stamm, 2005). Radey and Figley (2007) encourage more attention to the aspects of helping work that are positive and that may offer some protective effect against the occurrence of compassion fatigue and burnout. Compassion satisfaction and compassion fatigue are not mutually exclusive; it is possible for the same individual to experience high levels of compassion satisfaction and still be experiencing compassion fatigue (Stamm, 2005).

The model proposed in this study suggested that compassion satisfaction would be significantly predicted by empathy subscales, and also by clinician mindfulness and emotional separation. In bivariate correlations, mindfulness and emotional separation

had both demonstrated moderate correlations with compassion satisfaction, with higher scores on the mindfulness and emotional separation scales correlated with higher compassion satisfaction scores. Among the empathy subscales, bivariate analysis showed that personal distress had a significant negative correlation with compassion satisfaction, and perspective taking had a significant positive correlation with compassion satisfaction. The correlation for fantasy with compassion satisfaction was negative but non-significant, and the correlation for empathic concern was positive but non-significant.

Simultaneous entry OLS showed that mindfulness demonstrated the strongest association with compassion satisfaction, with higher mindfulness scores predicting higher levels of compassion satisfaction. Emotional separation also had a significant positive association with compassion satisfaction. Among the empathy subscales, a significant positive relationship was found between empathic concern and compassion satisfaction, despite non-significant bivariate correlations. A significant negative relationship was found for personal distress and compassion satisfaction. Perspective taking, though significant in bivariate correlations, again was not found to be a significant predictor of compassion satisfaction in the simultaneous entry regression.

As with compassion fatigue and burnout, the data for compassion satisfaction were examined more closely in an hierarchical regression analysis, again using the same model structure specified before. Step 1 included the control variables, and Step 2 in the hierarchical model added the effect of the 4 empathy subscales. The only empathy subscale that was a significant predictor of compassion satisfaction at this stage was personal distress.

Step 3 of the hierarchical model added mindfulness which was found to significantly predict compassion fatigue. In this step, the effect of personal distress was reduced, and again a subsequent Sobel test for mediation showed that the effect of personal distress on compassion satisfaction was mediated by mindfulness. In addition, when mindfulness was entered in step 3, the empathic concern empathy subscale became significant. Previous correlational studies (Beitel et al., 2005; Block-Lerner, Adair, Plumb, Rhatigan, & Orsillo, 2007) and intervention studies (Krasner et al., 2009) had suggested that higher mindfulness was associated with increased empathic concern. The finding that empathic concern became a significant predictor of compassion satisfaction in the presence of mindfulness suggested the possibility of a moderation effect of mindfulness on the influence of empathic concern on compassion satisfaction; however, tests for moderation did not find a significant effect.

Finally, with the inclusion of emotional separation in step 4 of the hierarchical model, the effect of mindfulness on compassion satisfaction was reduced but still remained the strongest predictor. Despite this direct effect, mediation tests were completed and again showed that some portion of the effect of mindfulness on compassion satisfaction was carried through the emotional separation variable, and some part of the effect of personal distress on compassion satisfaction was mediated by both mindfulness and emotional separation. The effect of empathic concern on compassion satisfaction which had emerged in step 3 of the hierarchical regression was further strengthened with the addition of emotional separation. Tests for a moderation effect of emotional separation on the relationship between empathic concern and compassion satisfaction showed an association that came close to significance.

Compassion satisfaction and emotional separation. Though emotional separation remained a significant predictor of compassion satisfaction, with higher emotional separation scores predicting higher compassion satisfaction, the relative influence of emotional separation was less with compassion satisfaction than it had been with either compassion fatigue or burnout. Since compassion satisfaction refers to a positive affect the clinician gains from involvement in helping work, maintaining a clear emotional differentiation from the client might not play as strong a role in this model.

Compassion satisfaction and mindfulness. Mindfulness was the strongest predictor of compassion satisfaction. While emotional separation did partially mediate the effect of mindfulness on compassion satisfaction, there were larger direct effects of mindfulness on compassion satisfaction. Again, these differential effects will be discussed below.

Compassion satisfaction and empathy. The significant relationship between higher levels of compassion satisfaction and higher empathic concern scores on the IRI indicates that concern for others contributes to the social worker's sense of meaning and accomplishment even when mindfulness and emotional separation were controlled. This result was consistent with recent reflections by Radey and Figley (2007) and Stalker et al. (2007), who similarly emphasized the importance of considering the positive effects of caring. Since compassion satisfaction is related to the clinician's sense of satisfaction in helping others, it makes sense conceptually that higher levels of concern for clients would contribute to an increased satisfaction in doing the work of helping. However, given the non-significant bivariate correlations between empathic concern and compassion satisfaction, these empirical results showing such a relationship were somewhat

surprising, despite the conceptual congruence, and should be examined in further studies with larger sample sizes and with experimental designs.

The influence of the personal distress empathy subscale on compassion satisfaction was partially mediated by emotional separation and mindfulness, but also had distinct, direct predictive power. Practitioners' higher personal distress scores (which reflect self-oriented distress in response to client distress) on the IRI were associated with lower levels of compassion satisfaction as compared with less distressed peers. This finding suggests that regardless of the practitioner's ability to remain differentiated emotionally and pay attention mindfully, witnessing the distress of others still carries some cost to the practitioner. Alternately, this finding may indicate that persons with "high anxiety and discomfort in emotional social settings" (Davis, 1983, p. 116) may not benefit as strongly from any protection offered by mindfulness and emotional separation as might persons with lower levels of personal distress. While results of the analysis regarding a moderating effect of emotional separation on the effect of empathic concern on compassion satisfaction did not quite reach significance ($p = .077$), this near-significant finding suggests that the relationship should be examined in larger samples.

The perspective taking subscale of the IRI, again, was not a significant predictor of compassion satisfaction despite bivariate correlations. Additional analysis is needed to understand the likely complexity of the paths of action of the various facets of the multidimensional construct of empathy on compassion satisfaction. .

Differential Effects of Mindfulness

Mindfulness exerts some influence on all three of the dependent variables that is mediated by the emotional separation variable. In addition, mindfulness also has a direct

influence on both burnout and compassion satisfaction that is distinct from whatever effect is carried through emotional separation. This direct influence does not occur with compassion fatigue, however. In an attempt to understand these differential effects, the mindfulness subscales were examined.

Baer and colleagues (2006) reported that individual mindfulness facets were differentially associated with related constructs of cognitive, psychological and social functioning (such as alexithymia, dissociation, experiential avoidance, self-compassion, etc). In their analysis ($N = 881$), the *observe* mindfulness facet was most strongly related to openness to experience, which requires attentiveness to both internal and external states. The *describe* facet was most strongly related to alexithymia and emotional intelligence, both of which involve recognition and labeling of emotional states (of self and others). The acting with awareness facet (*actaware*) was most strongly correlated (negatively) with dissociation and absent-mindedness. The *nonjudge* facet was most strongly related (negatively) to thought suppression, difficulties with emotional regulation, experiential avoidance, neuroticism, and psychological symptoms. The *non-react* facet was most strongly related to self-compassion. Lykin's research (2006) similarly found that *observe* was related to reflection and to purpose in life, while *describe* was most strongly associated with reflection, emotional intelligence, and alexithymia.

To examine the way the individual mindfulness facets were associated with the dependent variables, a series of regression analyses were completed with each of the individual mindfulness subscales substituted for the total mindfulness scale in regression equations predicting each of the dependent variables (Table 26, p. 140). Three of the

mindfulness subscales, *nonjudge*, *actaware*, and *nonreact*, related to the three dependent variables in very similar ways, with higher scores on each of these three mindfulness subscales predicting lower compassion fatigue and burnout, and higher compassion satisfaction scores. *Nonjudge* and *actaware* predicted all three dependent variables at the $p \leq .001$ level. *Nonreact* predicted all three at the $p \leq .01$ level.

The *observe* and *describe* subscales, however, behaved somewhat differently. As mentioned above, *observe* had been associated with openness to experience and the ability to pay attention to both internal and external experience (Baer et al, 2006) and with reflection and purpose in life (Lykins, 2006). While the *observe* scale was not significantly associated with compassion fatigue in the regression analyses in this study, it did significantly predict burnout, and was barely under significance ($p = .053$) as a predictor of compassion satisfaction. Higher scores on the *observe* subscale were associated with lower burnout and higher compassion satisfaction scores, but showed no significant relationship to compassion fatigue.

Similarly, the *describe* subscale, which had been previously associated with emotional intelligence and alexithymia (Baer et al 2006, Lykins, 2006) and reflection (Lykins, 2006), was not significantly associated with compassion fatigue in this study. *Describe* did, however, negatively predict burnout and positively predict compassion satisfaction.

It would seem, then, that the direct relationship mindfulness shows with burnout and compassion satisfaction (over and above whatever influence is shared with emotional separation) may be at least partially related to the *observe* and *describe* facets of the mindfulness construct.

Compassion fatigue differs from burnout in that it primarily represents the experience of secondary trauma, possibly including intrusive images or thoughts, numbing or distancing reactions, and alterations of cognitive schemas which might then make it more difficult to interpret and make meaning of experiences (McCann & Pearlman, 1990; Saakvitne, Tennen, & Affleck, 1998). Thus, persons scoring higher on the compassion fatigue scale may share coping behaviors typical to those common in post-trauma reactions, such as strong aversive reaction, avoidance behaviors, and a tendency toward rumination (Wells, 2000). Many of the associations between the mindfulness facets *actaware*, *nonjudge*, and *nonreact* and related constructs (Baer et al., 2006; Lykins, 2006) seem to relate well to these trauma and post-trauma reactions. For example, *actaware* was associated with dissociation and absent-mindedness; *non-judge* was associated with thought suppression, difficulties in emotional regulation, experiential avoidance, neuroticism, psychological symptoms; and *non-react* was associated with differing levels of self-compassion (Baer et al., 2006; Lykins, 2006). It makes sense, then, that these particular aspects of mindfulness might influence levels of compassion fatigue.

The development of both burnout and compassion satisfaction, however, involve more than the reaction to traumatic events of clients. Broader institutional and personal factors such as size and type of caseload, supervision, social support, work hours, internal locus of control, availability of adequate resources, specialized training and knowledge, etc. (Killian, 2008; Siebert, 2006; Sprang et al., 2007) —as well as problematic levels of compassion fatigue—all may influence levels of burnout and compassion satisfaction.

The qualities associated with the *observe* and *describe* mindfulness facets seem substantively different than those associated with *actaware*, *nonjudge*, and *nonreact*. For example, increased openness to both internal and external experience, higher emotional intelligence, and lower alexithymia (Baer et al, 2006; Lykins, 2006), as well as higher scores on reflection and purpose in life (Lykins, 2006), seem to imply something beyond management of secondary trauma reactions. The ability to stay present to the moment and see the objective reality of an experience (openness to internal and external experience), or to recognize and then step back and put words to emotional experience (alexithymia), and engage in higher-level integrative processing (reflection and emotional intelligence), as well as an ability to experience a sense of meaning and mission (purpose in life) might partially explain the direct, beneficent effect mindfulness had for both burnout and compassion satisfaction. Substantial empirical evidence supports a relationship between mindfulness and life satisfaction and purpose, well-being, feelings of autonomy and competence, relationships with others, and other beneficent effects (Brown & Ryan, 2003; Carmody et al., 2009; Krasner et al., 2009; Mackenzie et al., 2006; Shapiro et al., 1998) that conceptually go way beyond an ability to keep a separate sense of self (emotional separation) or the management of fear responses. These qualities that have been associated with the *observe* and *describe* mindfulness facets certainly may contribute to increased resilience to burnout and increased ability to experience work satisfaction.

Summary Discussion of Key Independent Variables and Additional Findings

Emotional separation. Results of the current analyses seem to suggest that emotional separation is an important construct in relation to all three dependent variables,

and is a quality or skill that may be worth developing in clinicians as a way to buffer the effects of engagement in the work of helping. However, though emotional separation may contribute to professional quality of life, it is a concept that has received little attention. Emotional separation may have effects on processes not addressed in this study that should also be considered. For example, Corcoran (1983) found emotional separation was associated with lower empathy. It is possible that emotional separation without sufficient empathy may result in clinicians who, though less likely to be damaged by their involvement with clients than might their peers without similar levels of emotional separation, may also not be as invested, engaged, or effective. It will be important to examine the influence of emotional separation on the therapeutic alliance and on clinical effectiveness in order to understand any latent effects that may occur as a result of increasing clinicians' capacity for emotional separation.

Although emotional separation has potential as a positive influence on professional quality of life for clinicians, it may be that some optimal combination of empathic concern and emotional separation may be indicated. Or, perhaps what is needed by clinicians is a flexible, context specific ability to toggle back and forth between an accurate and rich perception / comprehension of the experience of the other, and a clear recognition by the clinician that he or she is not the same as the other.

Further research is needed to identify whether (and if so, how) emotional separation can be taught, and whether there are dangers inherent in too much emotional separation. This study does indicate that mindfulness contributes to this capacity for keeping a differentiated sense of self, and is perhaps one path to emotional separation. Since mindfulness contributes to emotional separation and also to attentional focus,

flexibility, and control, it may be that mindfulness is a means to allow for skillful and flexible use of emotional separation, with less risk of disengagement or loss of therapeutic empathy.

Mindfulness. While mindfulness contributes indirectly to lower compassion fatigue and burnout scores and higher compassion satisfaction scores through its contribution to emotional separation, mindfulness also directly contributes to lower burnout and is the strongest predictor of higher compassion satisfaction scores. In addition, mindfulness mediated the effect of personal distress on all three of the dependent variables. The distinct direct effects may be most closely associated with the aspects of mindfulness related to the *observe* and *describe* mindfulness subscales.

It is also possible that mindfulness may assist practitioners in other ways not specifically mentioned above, including higher-level processing of personal and interpersonal experience in a way which allows for increased ability to deeply comprehend and interpret these experiences both cognitively and emotionally. This is consistent with a number of scholars (Epstein, 1999; Epstein et al, 2008, Krasner, 2009; Siegel, 2007b; Ludwig & Kabat-Zinn, 2008) who suggest that clinician mindfulness contributes to critical thinking skills and a reduction of reactivity and bias, while at the same time enhancing the therapeutic relationship. Epstein and colleagues (2008) argue that mindfulness may bridge the gap between evidence-based and relational therapeutic approaches, in that higher mindfulness may help reduce reactivity and the tendency to categorize prematurely in order to avoid uncomfortable uncertainty—behaviors antithetical to honest observation, critical thinking, and collaborative goal-setting.

Mindfulness may also assist clinicians to feel a sense of meaning and purpose in the work that they do and to experience enhanced general well-being and life satisfaction (Brown & Ryan, 2003; Carmody et al., 2009; Krasner et al., 2009; Mackenzie et al., 2006; Shapiro et al., 1998). As evidence mounts regarding the general salutary effects of mindfulness practice, it may be recognized that, like exercise and good sleep hygiene, mindfulness contributes to general health and well-being, which consequently may influence practitioners' level of resilience and coping.

Martin (1997; 2002) suggests that mindfulness is a core part of most all psychotherapy orientations already, and in fact proposes that it is one of the “common factors” that underlie diverse treatment approaches, like the therapeutic relationship or expectancy. He defines mindfulness as “a state of psychological freedom that occurs when attention remains quiet and limber, without attachment to any particular point of view” (p. 291), and asserts that practitioner mindfulness doesn't necessarily require meditation practice but is rather a factor common in most all skilled psychotherapeutic intervention. “In a sense, mindfulness is right under our feet when we and our patients are doing our best work” (p. 310). Mindfulness allows the therapist to manage two important tasks: 1) stepping back (decentering or disidentifying) and taking a point of view like a “hovering spacecraft” (p. 300) which allows view of the entire landscape and recognition that there are multiple perspectives with which one could engage, and 2) giving attention to the process of shifting perspective and focusing intently on a particular perspective, or shifting in and out of particular perspectives at will, a process that involves intentional choice and a reduction of automatic behaviors (Martin, 1997).

Martin argues that good psychotherapists already practice mindfulness when they engage with their clients in attentive and non-judgmental ways, and that the processes of mindfulness “have been tacitly contained in Western psychotherapies all along” (p.292). Though Martin’s argument is consistent with the concept of mindfulness as both a dispositional trait and a state of attention and acceptance that the practitioner intentionally enters into, it does not discount the evidence that mindfulness may be cultivated with practice, or that enhanced mindfulness may positively influence practitioners in a variety of ways.

It is this recognition that mindfulness can be learned and that the benefits of mindfulness may increase with practice (Brown & Ryan, 2003) that is important to note here. Siegel (2007) discusses mindfulness as an activity with neurological correlates that results in the strengthening and growth of synaptic connections, and suggests it is through this synaptic growth that intentional (temporary) states brought about with mindfulness practice may eventually be transformed into more long-lasting traits. Regardless of whether the results occur because of neurological changes or another mechanism of action, both state and trait mindfulness predict self-regulated behavior and positive emotional states (Brown & Ryan, 2003)

Empathy. The findings regarding empathy indicate that it is the personal distress facet of the construct which is most strongly related to professional quality of life, though for both compassion fatigue and burnout, this effect is fully mediated by mindfulness and emotional separation. Personal distress had both direct and indirect effects on compassion satisfaction, and empathic concern also had a small direct effect on

compassion satisfaction, with those clinicians who had higher levels of empathic concern reporting enhanced levels of satisfaction in their work as helpers.

The evidence that emotional separation and mindfulness both mediate the effect of personal distress on all three dependent variables is important, and points to potential benefits for clinicians in learning both emotional separation and mindfulness skills as a way of mitigating the effects of personal distress they may experience when working with suffering clients. Mindfulness is associated with voluntary, intentional regulation of attentional focus as well as regulation of emotional reactivity (Arche & Craske, 2006; Brenner, 2009; Moore and Malinowski, 2009; Slagter et al., 2007). Decety and Lamm (2009) suggest that it is exactly these processes of attentional control and emotional self-regulation which temper and modulate the level of arousal that allow those who witness the pain of others to stay engaged and experience empathic concern, rather than turning away to avoid their own personal distress. Learning to remain empathically engaged with clients in painful situations but without potentially dangerous over-identification or aversive, self-oriented avoidance might have beneficial effects on both practitioners and clients.

Additional findings.

Adult trauma. Persons in this study who reported a history of trauma in adulthood had increased risk for compassion fatigue compared to those persons without such a history. While this finding was based on a single question and should be viewed cautiously, these results suggest the need for a more nuanced examination of trauma exposure in future studies.

Workplace. Workplace was a significant predictor of burnout and compassion satisfaction in this study. It was not predictive of compassion fatigue, however, suggesting that clinicians in this study experience similar levels of vulnerability to compassion fatigue in all practice settings. Post-hoc tests in analysis of variance (ANOVA) showed respondents working in community mental health and residential mental health / substance abuse settings had significantly lower scores on compassion satisfaction than did those working in private practice. Respondents working in community mental health also had significantly higher burnout scores than did private practitioners. None of the other differences noted between workplace categories were found to be significant.

In another study which examined workplace setting as a predictor of professional quality of life, Craig and Sprang (2010) analyzed organizational setting (including community mental health, public agency, private non-profit, inpatient, private practice and “other” practice setting categories) as a variable predicting compassion fatigue, burnout, and compassion satisfaction among a national sample of self-identified trauma therapists. They found that practice setting significantly predicted compassion fatigue as well as burnout and compassion satisfaction. However, their results indicated that those practitioners working in community mental health centers fared considerably better than the current study sample in Kentucky did. In their national sample, those working in community mental health had significantly higher satisfaction than did those working in private non-profit agencies; those working in inpatient care settings reported significantly more compassion fatigue than did those who worked in community mental health centers or in private practice; and inpatient workers also reported significantly higher burnout

scores than did community mental health workers (Craig & Sprang, 2010). These differences may be due to the specialized nature of the sample in that study (trauma specialists), to the fact that their sample included psychologists as well as social workers, or to the different sample sizes. Alternately, the results may reflect on the current work environment in community mental health in Kentucky.

In the current study, it is possible that the differences in terms of burnout and compassion satisfaction noted between private practitioners and clinicians working in community mental health settings may be explained by variables not measured in this study, such as volume of cases, degree of autonomous control over work decisions, satisfaction with earnings, etc. It is an interesting finding that those clinicians who were working two jobs had the third highest scores on compassion satisfaction (of the 7 categories), the third lowest scores on burnout, and the fourth lowest scores on compassion fatigue. While the survey question did not provide information on which job was primary, or even if either of the jobs was full-time, this finding seems to indicate that rather than leading to emotional exhaustion and work distress, clinicians who choose to work additional hours at a second job may have experienced a protective effect. As mentioned previously, 17 of 21 of those respondents who were working two jobs listed private practice as one of their two work categories. It may be that for persons working in more stressful or less autonomous settings, the effect of also working in private practice had a positive rather than a negative effect on professional quality of life. Alternately, this may be a reflection of the general level of stress placed on clinicians who earn relatively low salaries and the consequent relief from additional earnings,

which might then contribute to lower overall stress, higher compassion satisfaction, and lower burnout.

Limitations

Despite attempts to specify models describing how these variables might interact, causality cannot be determined from these results due to the cross-sectional research design. As exploratory research, a number of possible models and explanations are suggested, but these models will need to be tested with experimental designs allowing for longitudinal data. In addition, the ability to generalize from these results is limited, as the sample is drawn only from LCSWs in one state and is weighted toward clinicians in private practice. Though care was taken to assure anonymity, there could be bias both in terms of who chose to respond to the survey, and in terms of a possible social desirability response effect. Further, though the response rate for the current study is comparable to other studies in this area, it still represents less than half of those contacted. The extent to which those who participated in the study were similar to those who did not participate is unknown. Although a follow-up mailing did lead to a 30% increase in the final sample, the use of other strategies designed to increase sample size is warranted.

Additionally, despite best attempts to define the variables involved, and despite the use of previously tested and validated instruments, there is still a lack of clarity and agreement regarding precise operational definitions of some of the terms. Researchers recognize the need for continued efforts to develop a more precise operational definition of mindfulness (Baer, 2003). Empathy, similarly, is a complex construct which may involve several distinct processes. Although the Interpersonal Reactivity Index (Davis, 1983) was chosen for this study because of its use in similar research, other measures of

empathy should be explored as well. In addition, it is a methodological limitation that the survey instrument for this study did not ask specific questions regarding clinician exposure to clients who were experiencing trauma (see discussion of the DSM-IV-R Criterion A debate in Chapter 3, p. 78-79) Any results regarding compassion fatigue should consequently be interpreted to measure symptoms along a continuum of risk, without definitive diagnoses of PTSD or of compassion fatigue.

Implications

This study contributes to the growing body of literature examining variables that might influence professional quality of life among helping professionals. Given the alarming rates of compassion fatigue and burnout, and the low retention rates among human service professionals, research that suggests ways that clinicians might be better protected from the negative effects of their work—or might experience enhanced satisfaction from their work—has important implications. In the sections which follow, I will discuss implications for practice, and implications for future research.

Implications for practice. Social workers and other human service professionals regularly engage in stressful work that involves being empathically engaged with persons who are suffering or traumatized. While human service agencies have a responsibility to work toward improved policies and practices that reduce risk and offer protection to workers (such as reasonable and balanced caseload and supportive supervision), it is also important that attention be given to understanding optimal ways the individual practitioner may process and metabolize their work experiences in order to minimize detrimental effects..

As discussed in Chapter 2, several core processes may increase vulnerability to maladaptive responses to stressful circumstances, including experiential avoidance and ruminative thought patterns ((Baer, 2007; Boulanger et al, 2010; Segal, Williams & Teasdale, 2002; Wells & Sembi, 2004). One of the ongoing challenges in approaching the individual management of stress reactions involves the need to distinguish between automatic processes and those that can be controlled (Vasquez & Hermangomez, 2009). The results of this study may broaden our ideas regarding what practitioners may, in fact, be able to control.

As mentioned before, empathy involves a kind of automatic apprehension of the experience of the other, a secondary cognitive processing of the information received, and an awareness on the part of the observer that she is separate from the person who is observed (Decety & Lamm, 2006). Decety and Lamm (2006) call the initial empathic apprehension and internal simulation of that which is observed (corresponding to the immediately-felt, “primal empathy” or emotional contagion mentioned by Goleman, 2006) ”bottom-up” information processing. However, although the initial shared (internally simulated) experience of empathy may be automatic and without conscious awareness or effortful processing, this “bottom-up” experience is not fixed or immutable, and can, to some extent, be inhibited or controlled by intentional cognitive management (Singer & Lamm, 2009). These executive control processes can be seen as “top-down” information processing.

It is important to emphasize that the automatic perception and initial internal simulation felt in response to the perception of the other can to some extent be regulated and modulated by this top-down processing (executive control processes involving

attentional control and self-regulation of emotional responses). In a reciprocal loop, this meta-cognitive level of processing continues to receive information from bottom-up responses, and continues to provide top-down feedback to control responses (Decety and Lamm, 2006; Singer & Lamm, 2009).

Much of the information regarding these reciprocal processes comes from recent neuroimaging studies in social neuroscience which “...document the flexibility of the human mind in responding to others and show that empathy is not an all-or-nothing phenomenon” (Singer & Lamm, 2009, p. 89). Although this makes a great deal of sense, schools of social work, at least, are a long way from operationalizing these top-down processes and addressing them in clinical training programs. Social work textbooks and practice classes do mention the importance of empathy and do caution about the dangers of too little or too much empathy, or, for example, warn students about maintaining appropriate boundaries. But, there is little explanation provided to students about the actual structure and processes of empathic responses, or how those processes might play out for the individual clinician. Advice students receive about managing empathy is similar to that they receive regarding prevention of compassion fatigue or burnout; the suggestions are often simplistic and prescriptive, with little information about how one might actually go about managing the “right” amount of empathy or the “right” level of engagement with clients.

The results of this exploratory study offer some initial explication of how some of these processes may work. Students and practitioners may benefit from understanding the importance of maintaining a separate perspective when witnessing the pain of others, the benefits of approaching work stressors mindfully, or that alert, flexible, and

differential management may be needed for *different aspects* of clinical empathy. In addition, the results of this study suggest that clinical training programs should consider including the development of these “top-down” cognitive processes as competencies to be addressed within their implicit and explicit curricula. A great deal of empirical information is already in place regarding the benefits of mindfulness training, as well as the mechanisms involved in teaching and learning mindfulness. Clinical training programs should consider including mindfulness training in their curricula as a core skill to increase attentional control, emotional regulation, and management of stress.

Implications for research. It is important to emphasize that this is an exploratory study, and as such suggests a number of starting points for future research rather than a definitive description of how these various constructs are related. There is much more work to be done to clarify relationships between mindfulness facets, aspects of empathy, emotional separation, and professional quality of life.

This study used a relatively small sample of clinical social workers in only one state, and it will be important to explore whether these results hold up in larger and more diverse samples. For example, the child protection workforce is generally young and relatively inexperienced (Hess, Kanak & Adkins, 2009), yet these workers are thrust into complex situations which involve repeated exposure to family violence and traumatized children. Despite increasing acknowledgement of the need to address secondary trauma and burnout among this population and a fair amount of information about risk and protective factors such as supportive supervision, economic pressures have resulted in larger caseloads and even more limited supervision time—and the supervision that does

occur in overburdened public agencies tends to be mainly administrative (Chapman et al, 2003).

Though some resilient child protection workers manage to stay empathically engaged with their clients without leaving their jobs or becoming disengaged or hardened, many others do not fare so well. As mentioned previously, turnover rates among child protection staff average *30-40% annually* (U.S. Government Accounting Office, 2003). In 1995, the estimated cost of each worker vacancy was estimated to be \$10,000 (Yankeelov et al, 2009). Although the numbers of workers who leave child protection or the economic and social cost of their replacement is concerning, a more serious issue may be the numbers of workers who are experiencing high levels of compassion fatigue or burnout yet *stay employed* out of exhaustion or simply a lack of options. The cost to these professionals and to the clients whom they serve warrants attention and serious efforts to reduce harm. Certainly, there are large and complex systemic issues regarding the child welfare workforce (e.g. funding, organizational structure, etc.) that absolutely need to be addressed, and care must be taken not to imply that these issues can be resolved simply by better self-management by the workers themselves. Nevertheless, relatively inexpensive cross-sectional studies of child welfare workers using measures similar to those in this study might provide information about whether the beneficial effects of mindfulness and emotional separation on professional quality of life hold in that population, and, consequently, whether intervention studies should subsequently be attempted.

In addition to conducting correlational research similar to the current study in varied populations, intervention studies examining the effect of mindfulness interventions

on empathy and professional quality of life (in various professional populations) will allow a clearer understanding of the direction and strength of relationships suggested by this cross-sectional study.

Aside from studies examining emotional separation, mindfulness and empathy in relation to professional quality of life, a variety of other research questions emerge from the results of this study. These include further examination of all three of the key independent variables, emotional separation, mindfulness, and empathy.

Emotional separation. Though emotional separation may help with professional quality of life, how do differing levels of emotional separation affect other processes relevant to clinical effectiveness? For example, how does emotional separation affect the development of the therapeutic alliance, the motivation of helping professionals to persist in efforts to assist clients, the ability of clinicians to work collaboratively with clients to establish tasks and goals, or therapist fidelity to treatment protocols? Understanding these affects (and others) will be important in order to assure that the benefits of emotional separation on professional quality of life are not offset by unforeseen negative effects.

In addition, research is needed which clarifies whether (and if so, how) the ability for emotional separation can be developed. Is the *intention* to keep oneself separate sufficient, or are there particular skills or capacities which can be improved with practice? What are the implications for clinical training?

Mindfulness. Mindfulness research is “increasing exponentially” (Chambers, Gullone, & Allen, 2009; Brown, Ryan & Creswell, 2007) and new studies are being published regularly which chronicle the effects of mindfulness interventions with various

problems and clinical populations. In addition, there is increasing awareness of the general salutary benefits on physical, emotional, and relational health among the general public (Chiesa & Serretti, 2009). However, the exploration of mindfulness as a potential clinical training tool is just beginning, and myriad questions will need examination.

The existing literature makes a strong case for the potential benefits of mindfulness training for human service workers, and this current study has specific implications regarding the potential effect of mindfulness on professional quality of life. In addition, there are a few intervention studies with particular application to clinician well-being (Beddoe & Murphy, 2004; Krasner et al., 2009; Mackenzie et al., 2006; Shapiro et al., 1998) and clinical effectiveness (Grepmaier, Mitterlehner, Loew, Bachler, et al., 2007; Grepmaier, Mitterlehner, Loew, & Nickel, 2007). However, additional intervention studies with rigorous experimental designs as well as well-executed qualitative studies are needed to examine whether or not mindfulness will have significant beneficent effects for worker well-being and for clinical effectiveness.

Further, it will be important for future research to clarify dosage effects, both in terms of training and of on-going practice. While some studies support that effects of mindfulness intervention are related to amount of practice (Carmody & Baer, 2008; Jha et al., 2010) a 2009 meta-analysis of MBSR studies (Carmody & Baer, 2009) suggest mixed effects related to class contact and home practice hours. It will be important to clarify how much training is indicated in order to make a difference and how much on-going practice is necessary to experience and/or sustain beneficent effect.

Information regarding the effect of the clinician's/ instructor's level of personal mindfulness experience and practice on clients/ clinician-trainees is needed as well. For

example, will greater benefits accrue to clients and/or clinician trainees when their therapist/ instructor has a long and stable personal mindfulness practice, as suggested by Kabot-Zinn and others (Baer, 2007; Cozolino, 2006; Kabat-Zinn, 1990) or can the instructions be manualized and/ or delivered effectively by relatively novice mindfulness practitioners, or by persons who are not themselves active practitioners of mindfulness?

In addition, if intervention research shows mindfulness interventions to be helpful in clinical training, what factors will increase long-term compliance with recommended practice patterns? For example, we have considerable knowledge regarding the buffering effects of exercise on stress, yet we know that many people fail to adhere to an exercise regimen over time despite knowledge of the salutary effects and despite having received specific training in exercise methods. What is likely to make mindfulness practice palatable and sustainable over the long haul to practitioners who are already overburdened?

Finally, continued research focused on understanding the mechanisms of action of mindfulness interventions is indicated. Some controversy continues regarding which aspects of mindfulness might be responsible for beneficent effects, or even if there is another core process (e.g. emotional regulation) undergirding the benefits attributed to mindfulness (Lykins, 2008). Some scholars have wondered whether deconstructing particular pieces of mindfulness practice outside of the broader context of spirituality and personal awareness may miss the boat and result in a weakened effect (Dimidigan & Linehan, 2003; Baer, 2003). Further research which clarifies what aspects of mindfulness may be related to particular outcomes is indicated.

Empathy. Despite the importance of empathy to human relationships in general and to therapeutic relationships in particular, and despite volumes written about the concept, there is little agreement on empathy's structure and no consensus on an operational definition. Although the Interpersonal Reactivity Index (Davis, 1983) is a commonly used instrument among empathy researchers, a number of other self report instruments are available as well. In addition, a growing number of neuroimaging studies are attempting to further explicate the construct of empathy. Studies comparing various self-report indices with neuroimaging results might allow for a more precise matching, clarification, and definitional standardization of the various aspects of the empathy process.

This study did identify one aspect of the empathy construct, personal distress, which is associated with compassion fatigue and burnout (indirectly, through the mediation effect of mindfulness and emotional separation), and with compassion satisfaction (both directly and indirectly). One other of Davis's empathy subscales, empathic concern, was associated with compassion satisfaction. None of the other empathy subscales were predictive of the dependent variables in this study. It may be that personal distress relates more directly to the immediately felt "primal empathy" response, which is more about self-preservation than about concern for others, and may be conceptually and / or temporally different from other constructs represented in the Interpersonal Reactivity Index (those of fantasy, perspective taking, or empathic concern). Is the metabolism of personal distress a precursor to the development of other aspects of empathy? Should personal distress be considered a separate process?

Perspective taking was not a significant predictor of professional quality of life in this study, but what role does perspective taking have on the experience of empathy in relation to the therapeutic alliance, clinical effectiveness, and on the urge toward pro-social action? Do different aspects of empathy have different effects on the therapeutic process? Is it possible to create a kind of indexing of empathy and emotional separation, such that the clinician can experience optimal empathic engagement with minimal negative effects such as personal distress?

It seems likely that the paths of action among the various empathy subscales are more complex than suggested by the models in this study. Given the important role that empathic engagement with clients has in terms of clinical effectiveness, research which clarifies and explicates particular paths of action may have important implications.

In addition, the models specified in this research study showed mindfulness and emotional separation as mediators of the effect of personal distress on the dependent variables of compassion fatigue, burnout, and compassion satisfaction. However, it is likely that these relationships are also more complicated than indicated by these models, with feedback loops among the variables which are not specified in this study. For example, several studies have suggested that aspects of empathy vary depending on the level of mindfulness. Specifically, mindfulness has been associated with increases in empathic concern and perspective taking and reductions of personal distress (Beitel et al., 2005; Dekeser et al., 2008; Krasner et al., 2009; Shapiro et al., 1998).

Cross-sectional data cannot definitively specify the direction of these relationships. Within this cross-sectional study, for example, we have proposed mindfulness and emotional separation as mediators of the effect of empathy on

professional quality of life, but mindfulness and emotional separation could also be viewed as *predicting* empathy. Studies with larger sample sizes which allow the use of more advanced analytic techniques to more clearly specify relationships between empathy subscales may help to clarify these relationships, but longitudinal intervention studies will ultimately be needed.

Conclusion

Social workers and other human service professionals are regularly exposed to the suffering and trauma of others, and are vulnerable to negative consequences such as burnout and compassion fatigue as a result of this exposure. Wells' metacognitive theory proposes that many persons who experience trauma (including secondary trauma) engage in maladaptive coping behaviors such as experiential avoidance and rumination. These behaviors, while intended to protect against reminders of the trauma, may actually maintain or exacerbate traumatic states (Wells & Sembi, 2004). Constructivist Self Development Theory (McCann & Pearlman, 1990) suggests that while clinicians are at risk of stress reactions as a result of exposure to the suffering of others, they can be active agents in deconstructing and reconstructing the meanings assigned to these experiences, and can be intentional about how to respond to them. While part of the natural response of witnessing another's pain is an automatic mirroring and empathetic simulation, Singer and Lamm (2009) remind us that these automatic reactions can, to some extent, be tempered and modulated by intentional executive control processes involving attentional control and self-regulation of emotional responses.

The results of this study indicate that certain intrapsychic variables such as mindfulness and emotional separation may influence the clinician's capacity for this top-

down regulation of emotional responses, including the response of personal distress when witnessing the pain of others. Further, the study suggests that increased emphasis on this intentional management of internal emotional states may be as important for clinicians as it is for clients, and that professional training programs should investigate how best to teach such skills. The study potentially has implications both for clinical training of helping professionals, and for the on-going support of practitioners.

Additionally, this study suggests fertile ground for future research. Further correlational studies with larger and more diverse samples and more sophisticated analytic models may help determine the generalizability of these findings, and the accuracy of proposed models. Ultimately, both qualitative studies and intervention research with experimental designs are needed to examine the potential benefits of enhancing mindfulness and emotional regulation skills among practitioners, to clarify relationships among variables, and to specify implications for professional education.

Appendix A

Professional Quality of Life Scale

Helping people puts you in direct contact with their lives. As you probably have experienced, your compassion for those you help has both positive and negative aspects. We would like to ask you questions about your experiences, both positive and negative, as a helper. Consider each of the following questions about you and your current situation. Select the number that honestly reflects how frequently you experienced these characteristics in the ***last 30 days***. (© B. Hudnall Stamm, ProQOL ,1997-2005.)

	0=Never	1=Rarely	2=A Few Times	3=Somewhat Often	4=Often	5=Very Often
_____ 1.						
_____ 2.						
_____ 3.						
_____ 4.						
_____ 5.						
_____ 6.						
_____ 7.						
_____ 8.						
_____ 9.						
_____ 10.						
_____ 11.						
_____ 12.						
_____ 13.						
_____ 14.						
_____ 15.						
_____ 16.						
_____ 17.						
_____ 18.						
_____ 19.						
_____ 20.						
_____ 21.						
_____ 22.						
_____ 23.						
_____ 24.						
_____ 25.						
_____ 26.						
_____ 27.						
_____ 28.						
_____ 29.						
_____ 30.						

Appendix B

Five Facet Mindfulness Questionnaire

The set of questions beginning on the following page inquires about how you pay attention to and react to your experiences. Please rate each statement using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you. (Baer et al., 2006)

1	2	3	4	5
never or very rarely true	rarely true	sometimes true	often true	very often or always true

- _____ 1. When I'm walking, I deliberately notice the sensations of my body moving.
- _____ 2. I'm good at finding words to describe my feelings.
- _____ 3. I criticize myself for having irrational or inappropriate emotions.
- _____ 4. I perceive my feelings and emotions without having to react to them.
- _____ 5. When I do things, my mind wanders off and I'm easily distracted.
- _____ 6. When I take a shower or bath, I stay alert to the sensations of water on my body.
- _____ 7. I can easily put my beliefs, opinions, and expectations into words.
- _____ 8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.
- _____ 9. I watch my feelings without getting lost in them.
- _____ 10. I tell myself I shouldn't be feeling the way I'm feeling.
- _____ 11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
- _____ 12. It's hard for me to find the words to describe what I'm thinking.
- _____ 13. I am easily distracted.
- _____ 14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
- _____ 15. I pay attention to sensations, such as the wind in my hair or sun on my face.
- _____ 16. I have trouble thinking of the right words to express how I feel about things
- _____ 17. I make judgments about whether my thoughts are good or bad.
- _____ 18. I find it difficult to stay focused on what's happening in the present.
- _____ 19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
- _____ 20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
- _____ 21. In difficult situations, I can pause without immediately reacting.
- _____ 22. When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words.

- _____ 23. It seems I am “running on automatic” without much awareness of what I’m doing.
- _____ 24. When I have distressing thoughts or images, I feel calm soon after.
- _____ 25. I tell myself that I shouldn’t be thinking the way I’m thinking.
- _____ 26. I notice the smells and aromas of things.
- _____ 27. Even when I’m feeling terribly upset, I can find a way to put it into words.
- _____ 28. I rush through activities without being really attentive to them.

- _____ 29. When I have distressing thoughts or images I am able just to notice them without reacting.
- _____ 30. I think some of my emotions are bad or inappropriate and I shouldn’t feel them.
- _____ 31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.
- _____ 32. My natural tendency is to put my experiences into words.
- _____ 33. When I have distressing thoughts or images, I just notice them and let them go.
- _____ 34. I do jobs or tasks automatically without being aware of what I’m doing.
- _____ 35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.
- _____ 36. I pay attention to how my emotions affect my thoughts and behavior.
- _____ 37. I can usually describe how I feel at the moment in considerable detail.
- _____ 38. I find myself doing things without paying attention.
- _____ 39. I disapprove of myself when I have irrational ideas.

Appendix C

Maintenance of Emotional Separation Scale

For each item listed below, use the following rating scale to determine and record the extent to which the statement is true for you. (Corcoran, 1989)

1	2	3	4	5	6
Completely false for me				Completely true for	

- _____ 1. I often get so emotionally involved with my friends' problems that I lose sight of my own feelings.
- _____ 2. When I talk with a depressed person, I feel sad myself for quite some time after the conversation.
- _____ 3. Sometimes I get so involved in other people's feelings; I seem to lose sight of myself for awhile.
- _____ 4. When friends describe an emotional problem, I am in touch with their feelings without becoming too emotionally involved
- _____ 5. I usually take the problems of others home with me.
- _____ 6. After listening to a friend tell of a scary experience, I have a difficult time studying or working.
- _____ 7. When the worries experienced by my friends concern me, I temporarily feel these worries but don't really get upset myself.

Appendix D

Interpersonal Reactivity Index

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by using the scale below. (IRI, Davis)

0	1	2	3	4
Does not describe me well				Does describe me well

- _____ 1. I daydream and fantasize, with some regularity, about things that might happen to me.
- _____ 2. I often have tender, concerned feelings for people less fortunate than me.
- _____ 3. I sometimes find it difficult to see things from the "other guy's" point of view.
- _____ 4. Sometimes I don't feel very sorry for other people when they are having problems.
- _____ 5. I really get involved with the feelings of the characters in a novel.
- _____ 6. In emergency situations, I feel apprehensive and ill-at-ease.
- _____ 7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.
- _____ 8. I try to look at everybody's side of a disagreement before I make a decision.
- _____ 9. When I see someone being taken advantage of, I feel kind of protective towards them.
- _____ 10. I sometimes feel helpless when I am in the middle of a very emotional situation.
- _____ 11. I sometimes try to understand my friends better by imagining how things look from their perspective.
- _____ 12. Becoming extremely involved in a good book or movie is somewhat rare for me.
- _____ 13. When I see someone get hurt, I tend to remain calm.
- _____ 14. Other people's misfortunes do not usually disturb me a great deal.
- _____ 15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.
- _____ 16. After seeing a play or movie, I have felt as though I were one of the characters.
- _____ 17. Being in a tense emotional situation scares me.
- _____ 18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.
- _____ 19. I am usually pretty effective in dealing with emergencies.
- _____ 20. I am often quite touched by things that I see happen.
- _____ 21. I believe that there are two sides to every question and try to look at them both.
- _____ 22. I would describe myself as a pretty soft-hearted person.
- _____ 23. When I watch a good movie, I can very easily put myself in the place of a leading character.
- _____ 24. I tend to lose control during emergencies.
- _____ 25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

- _____ 26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.
- _____ 27. When I see someone who badly needs help in an emergency, I go to pieces.
- _____ 28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Appendix E

ProQOL Mindfulness, Empathy, and Emotional Separation Scale and Subscale Psychometrics

Scale	No. of items	Range of scores	Alpha	Mean	SD
Professional Quality of Life					
Compassion Fatigue	10	0–50	.86	11.67	7.10
Burnout	10	0–50	.78	18.80	6.56
Compassion Satisfaction	10	0–50	.91	39.46	6.69
Five-Facet Mindfulness Scale	39	39–195	.93	144.80	18.35
Observing	8	8–40	.85	26.69	5.47
Describing/ labeling	8	8–40	.90	31.50	5.16
Acting w/ awareness	8	8–40	.92	29.33	6.02
Nonjudging	8	8–40	.92	32.27	6.04
Nonreactivity	7	7–35	.75	25.21	3.72
Interpersonal Reactivity Index—Empathy					
Empathetic Concern	7	0–28	.67	20.13	3.76
Perspective Taking	7	0–28	.75	19.39	3.86
Fantasy	7	0–28	.77	12.87	5.20
Personal Distress	7	0–28	.75	7.44	4.30
Emotional Separation	7	7–42	.76	34.22	4.47

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JACKY T. THOMAS

Place of birth: Lebanon, Kentucky

D.O.B. 06/29/1952

Vita

EDUCATION

University of Kentucky

Master of Social Work, 1982

Bachelor of Arts, English Literature, 1973

ACADEMIC EXPERIENCE

Teaching

Clinical instructor, University of Kentucky College of Social Work.
Lexington, Kentucky, August 2007-Present

University of Kentucky graduate teaching assistantship, 2006-2007

Research

Dissertation topic: *Intrapsychic Predictors of Professional Quality of Life:
Mindfulness, Empathy, and Emotional Separation*

University of Kentucky research assistantship, 2007
Center for the Study of Violence against Children
Drug Endangered Children Project

Administration and Service

Coordinator, Public Child Welfare Certification Program
College of Social Work, University of Kentucky
July 2009 - Present

Program Coordinator, University of Kentucky Masters in Social Work Program at
Morehead State University
August 2007 - July 2009.

PROFESSIONAL EXPERIENCE

Thomas and Stevens, Inc., Private practice in Clinical Social Work
Lexington, KY
1988-2007

St. Joseph Behavioral Medicine Network
Lexington, KY
1991-1992

Human Affairs International
Lexington, KY
1989-1991

Graham Dimmick Child Guidance Service
Lexington, KY
1983-1989

University of Kentucky College of Medicine
Lexington, KY
1982-1983

Florence Crittenton Home and Services
Lexington, KY
1980-1982

PUBLICATIONS

Thomas, J. & Otis, M. (2010). Intrapsychic correlates of professional quality of life: Mindfulness, empathy, and emotional separation. *Journal of the Society for Social Work and Research* 1 (2), 83-98. doi:10.5234/jsswr.2010.7.

GRANTS

Thomas, J. and Otis, M., Co-Principle Investigators. University of Kentucky College of Social Work Research Grant (March 2010). Pilot intervention study examining effects of mindfulness training on work satisfaction, burnout, and compassion fatigue in practicing social workers (mixed method study). \$2000

REFEREED PRESENTATIONS

Thomas, J. (Accepted March, 2011). Ninth Annual International Scientific Conference for Clinicians, Researchers and Educators: Investigating and Integrating Mindfulness in Medicine, Health Care, and Society, Boston, MA.

“Does mindfulness mediate the effect of personal distress on professional quality of life?”

Weeks, P. and **Thomas, J.** (October, 2010). Council on Social Work Education Annual Program Meeting, Portland, OR. *“Increasing Self-Awareness and Relational Skills in Child Welfare Workers: The Supervisor's Role”*

Thomas, J. (January, 2010). Society for Social Work and Research 2010 Annual Conference, San Francisco, California. *“Intrapsychic predictors of professional quality of life: Mindfulness, empathy, and emotional separation.”*

Thomas, J. (June, 2009) Society for Spirituality and Social Work, Fourth North American Conference on Spirituality and Social Work, Los Angeles, CA.

“Mindfulness, Empathy, and Emotional Separation as Predictors of Professional Quality of Life.”

Thomas, J. (March, 2009). Baccalaureate Program Directors Annual Meeting, Phoenix, AZ. *“Mindfulness, Empathy and Emotional Separation: Implications for Social Work Education.”*

Thomas, J. (October, 2008). Council on Social Work Education Annual Program Meeting, Philadelphia, PA. *“Mindfulness, Empathy, and Emotional Separation: Effects on Professional Quality of Life.”*

STATE AND NATIONAL WORKSHOPS/PRESENTATIONS (invited)

Thomas, J. (2006). Kentucky Society for Clinical Social Work, Lexington, KY. *“Interpersonal Neurobiology: An Introduction to the Work of Daniel Siegel”*

Thomas, J. (1998). Hospice of the Bluegrass, Fifth Annual Living with Grief Teleconference, Lexington, KY. *“How Culture, Spirituality, Age and Gender Affect the Grieving Process”*

Thomas, J. & Stevens, J. (1998). National Tour Association, 1998 National Conference, Tampa, FL. *“Attachment and the Traveling Parent: How to Stay Connected When You Have To Be Apart”*

Thomas, J. & Stevens, J. (1989-1992). Cabinet for Human Resources, Permanency Planning Training Program, on-going statewide staff training project. *“Communication and Counseling with Children”*

Stevens, J. & Thomas, J. (1991). Third Annual Kentucky Adoption Institute. *“Effects of Early Trauma on Development”*

Thomas, J. (1990). Kentucky Association of School Social Work, Annual Conference, *“Therapeutic Issues of Children Who Have Experienced Trauma”*

Thomas, J. (1990). Kentucky Association of Homes for Children, Annual Conference, *“A Developmental Approach to Children in Care”*

Thomas, J. (1990). Cabinet for Human Resources Foster Parent Training Project, *“Working With Traumatized Children”*

Thomas, J. (1989) Building Families through Adoption—Special Needs Adoption Project State Conference, *“Early Childhood Trauma”*

Thomas, J. (1989). Kentucky Department of Mental Health Child Sexual Abuse Conference, *“Treating the Sexually Abused Child”*

CERTIFICATIONS

Certified Social Worker, Commonwealth of Kentucky
Licensed Clinical Social Worker, Commonwealth of Kentucky, License # 406
Board Certified Diplomate in Clinical Social Work, American Board of Examiners of Clinical Social Work

UNIVERSITY SERVICE

- Member (elected by faculty), University of Kentucky Research Committee, 2010-present
- Member, University of Kentucky Undergraduate Committee, 2009-Present
- Member, Statewide Curriculum Development Team in Title IV-E Credit for Learning Program
- Member, University of Kentucky representative, Northeastern Region Learning Development Team

COMMUNITY SERVICE

- Northeastern Kentucky Regional Learning Development Team, 2007-2009
- Kentucky Society for Clinical Social Work, Board Member, 2007-2009
- Kentucky Society for Clinical Social Work, President 2005-2007
- Volunteer consultation and supervision, Bluegrass Rape Crisis Center 1994-2005
- Hospice of the Bluegrass, on-going monthly clinical case consultation and training with bereavement staff (1998-2000)
- Community Chronic Illness Support Group, Episcopal Diocese of Lexington, Lexington, KY (2000)
- Parent Support Group Facilitator, Child Development Center of the Bluegrass (1996-1997)
- Board of Directors, Florence Crittenton Home and Services (1996-1998)

PROFESSIONAL AFFILIATIONS

- 1982-present, Kentucky Society for Clinical Social Work member; State President, 2005-2006
- Clinical Social Work Federation, National Board of Directors, 2005-2006
- Clinical Social Work Association, founding member, 2006-present
- National Association of Social Work, 1982-present
- Council on Social Work Education, 2006-present
- Society for Social Work and Research, 2006-present
- Kentucky Association of Social Work Educators, 2008-present
- Association of Baccalaureate Program Directors, 2009-present
- Society for Spirituality and Social Work, 2009